

1. Impacts of Urban Agriculture

1.1 Foodsecurity and Nutrition



A variety of green vegetables is produced and sold in the city.

(Picture: UMP-LAC)

The Importance of Urban Agriculture to Food and Nutrition

Daniel Maxwell

CARE—East Africa Regional Management Unit, Nairobi, Kenya

maxwell@africaonline.co.ke

Introduction

Few trends seem more certain at the dawn of the 21st century than the rapid urbanisation of the global population, especially in developing countries. Sixty-six percent of the world's urban population lives in developing countries—a proportion that will increase to 80 percent by the year 2030. By 2030, almost 85 percent of Latin Americans will live in cities, as will over 50 percent of the African and Asian populations (United Nations 1998). Poverty, food insecurity and malnutrition—long thought of as predominantly rural problems—are increasingly becoming urban concerns (Atkinson, 1992; von Braun et al., 1993; Ruel, et al., 1998; Haddad et al., 1998). In general, current-status comparisons between rural and urban populations tend to portray urban populations as having better food security and nutritional status. However, the rate at which urban poverty is increasing—compounded by the rate at which urban populations are growing—indicates that that food security and malnutrition are going to be critical problems in urban areas in the 21st century (Ruel et al., 1998; Koc et al., 1999; Maxwell et al., 2000). Urban agriculture is therefore a critical topic to examine: to understand urban food insecurity and malnutrition; to understand ways in which urban residents have mobilised resources to meet some of their own food needs, and to develop appropriate strategies to ensure food security in urban areas.

Much of the resurgent interest in urban agriculture in the 1980s was sparked by studies in developing countries—mainly Africa (Sanyal 1985; Rakodi 1988; Lee-Smith et al., 1987; Freeman, 1991; Mvena et al., 1991; Sawio, 1993; Drakakis-Smith, 1991; Egziabher et al., 1994; Maxwell, 1995; Maxwell and Zziwa, 1992; Rogerson, 1993; Mbiba, 1995), or populations struggling with the transition from centrally-planned to free-market economies (Rose and Tikhominov, 1993; Bellows, 1999). This literature examined the extent to which urban populations were meeting some of their food requirements through home production. This literature largely reflects the original conclusions of Sanyal (1985) on the primary reasons for urban agriculture in Lusaka, Zambia: it is predominantly a strategy adopted by households whose monetary incomes are not enough to purchase sufficient food. In Latin America and Asia, commercial urban farming is more highly developed, especially with regard to vegetable and perishable-food production, but some of this production is also for home consumption (Yeung, 1985; Prudencio-Bohrt, 1993).

Throughout the 1990s, the interest in urban agriculture was merged with consumer concerns in the industrialised countries that were concerned not only with hunger issues, but which placed higher value on community decisions about the availability of a diversity of locally produced fresh or organic foods, and food safety (Koc et al., 1999; UNDP, 1996). This literature combines the concern over food with the broader themes of land use in urban and suburban areas, the recycling of urban wastes and maintenance of sustainable urban food systems. Contemporary research on urban agriculture thus serves as a common thread among a number of diverse interest groups. One major unifying theme is the impact that urban agriculture has on some element of food security or nutrition. Several specific topics

stand out: these are briefly reviewed below.

Food Supply and Availability

The first theme is the impact of urban agriculture on the overall availability and supply of food for urban markets. Empirical findings vary widely, and comparisons are impeded greatly by differing definitions of urban areas or urban agriculture. UNDP, for example, defines urban agriculture in terms of “foodsheds” (UNDP, 1996). Others define the practice in terms strictly limited to municipal boundaries. Thus comparisons of the contribution of urban agriculture to the overall food supply are fraught with methodological difficulties. Nevertheless, some attempts have been made to quantify such contributions. One of the pioneering studies in East Africa (Memon and Lee-Smith, 1993) estimated that 44 million dollars worth of food was produced in Kenyan cities in 1985. Maxwell and Zziwa (1992) estimated 20 percent of staple food needs in Kampala, Uganda were met from urban production. Perhaps more important is the contribution of fresh or high-value foods to the urban market. The proportion of total urban consumption of vegetables or poultry coming from urban agriculture can be quite high. In Asian cities, home production accounts for up to 90% of vegetable production and as much as 70 percent of poultry products—both meat and eggs (UNDP, 1996). Generally, however, reliable data about the proportion of the total urban food supply coming from urban production are scarce: studies are scattered, location-specific, and use varying definitions of urban agriculture. Urban production is rarely a category found in national data sets.

Access to Food at the Household Level

Definitional problems also exist with urban households, but there has been much more empirical research regarding the impact of urban agriculture on access to food at the level of the urban household. Many of these studies examine the impact of urban agriculture on household income, including fungible income in-kind, as the means of measuring impact (Freeman, 1991). Other studies compare the food security of urban farming and non-farming households (Maxwell, 1995; Mwangi, 1995). Conclusions vary. A study by the Noguchi Memorial Institute for Medical Research in Ghana (Armar-Klemesu, et al., 1998) found little measurable impact on consumption or overall food security from involvement in urban farming. The other studies noted above have found a strong correlation, through both a subsistence consumption pathway and a cash income pathway, particularly among low-income households (though not the very poorest). Even if the proportion of total household access to food from home production is small, part of the importance of semi-subsistence strategies is that the household can access this food at critical times, such as when income is insufficient for food purchases, or can access foods that add to dietary diversity. Some studies also consider the impact on food consumption of urban production of fuel wood—particularly in contexts where access to fuel for cooking is a critical constraint. The general conclusion of these studies is that urban production of fuel wood is as least as critical as the production of food (Lee Smith et al., 1987).

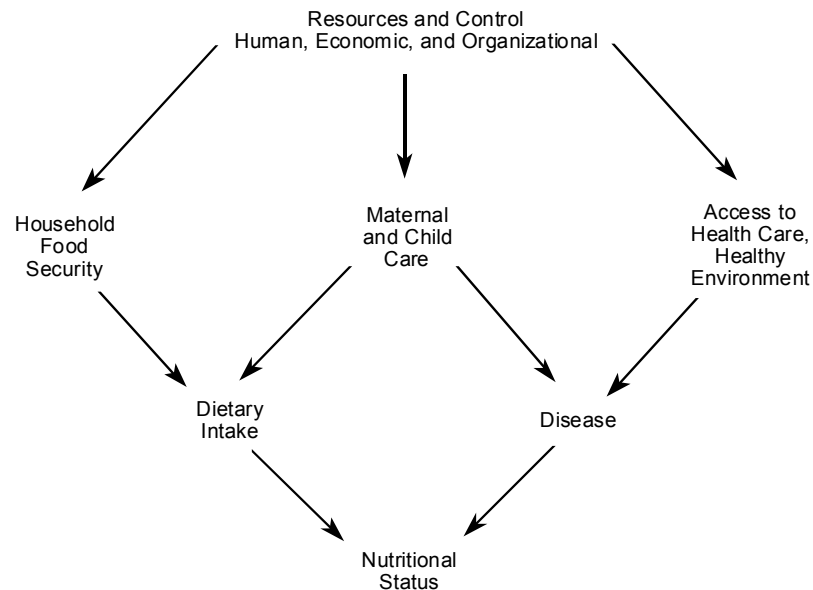
Impact on Nutrition

The UNICEF framework for understanding malnutrition has now been widely applied in urban areas. Briefly reproduced in Figure 1, the framework notes the importance not only of access to adequate food in achieving adequate nutritional status, but also the importance of health and care practices. Few studies have quantitatively measured the impact of urban agriculture on child nutritional status. One of the few that does (Maxwell, Levin and Csete, 1998), notes that not only is urban agriculture significantly correlated with higher child nutritional status in a

multi-variate analysis, it is the single most important determinant. Mwangi (1995) shows similar results in bi-variate analysis.

Other important impacts of urban agriculture on nutrition include making available at lower cost, fresh, locally grown vegetables and other perishable crops; lowering their cost and increasing their availability; and improving micronutrient content of diets. The environmental and health impacts of urban agriculture can be both positive and negative. Some research notes the potential of urban agriculture to recycle wastewater and organic materials, and thus contribute to solving waste disposal problems in rapidly growing cities (Smit and Nasr, 1992). But this suggestion increases the concern over food safety, particularly contamination from the use of untreated wastewater for irrigation. One of the few empirical analyses of this question (Akpedonu et al., 1998) compared the source of production (urban vs. rural), and the source of water (sewage vs. tap or rainwater). The study found both (source of production and source of irrigation water) to be insignificant as determinants of levels of bacterial contamination: the sanitation level in the marketing chain was the determining factor. The unregulated usage of agricultural chemicals in a densely populated environment also poses potential dangers to health. These factors make it difficult to generalise about the impact of urban agriculture on the environment and on health. Further research and improved regulatory capacity are necessary to ensure that urban farming practices actually safeguard human health (Birley and Lock, 1998; UNDP, 1996).

Figure 1. The UNICEF Framework: Food Security, Dietary Intake, and Nutritional Status



Source: Adapted from UNICEF (1990).

Concerns in Industrialised Countries

Urban agriculture has increasingly been of interest to a wealthier, more food-secure constituency in industrialised countries as well, but for different reasons. These include greater community control over local food sources and food safety, protecting where necessary small family producers that might otherwise be forced out of business, ensuring accessibility of fresh produce from local organic producers, and in general maintaining adequate dietary diversity and food freshness. This has been combined with the concern over the dismantling of state-operated safety nets and welfare systems, and increasing local or municipal responsibility for replacing such safety nets with more localised mechanisms (Bakker, et al., 2000; Allen, 1999; Power, 1999). Much of this has been accomplished through the development of formal local food policy councils, constituted from among a variety of stakeholders in local food systems including producers, wholesalers, retailers, consumers and local authorities, although a significant amount has also been achieved through purely voluntary citizen action (Dahlberg, 1999; MacRae, 1999; Lang, 1999). Many of these concerns were brought together in a recent book by Koc et al. (1999).

Gaps in Knowledge: Questions for Future Research

Despite the rapid expansion in knowledge about urban agriculture, several areas remain poorly understood, and several new trends require investigation. First, significant anecdotal evidence suggests that urban agriculture has become less a strategy of poor households as more middle and upper-class families have become involved: urban agriculture may be moving away from being a food access strategy of the poor towards a more commercialised strategy of the middle class. In a few cases, urban agriculture may have been the means of the poor reaching the middle class, and in some cases, changes may reflect broader growth and improvement in the overall urban economy. But more often this trend appears to reflect a change in access to resources—with more powerful urban interests realizing the value of under utilized urban land and the profit of urban production. Further research is required to test this hypothesis, and if true, to identify its consequences.

Second, where urban agriculture remains (or has become) a viable strategy of the urban poor to achieve food and nutrition security, more must be understood about the constraints faced by low-income urban farmers. Often these include legal and regulatory issues, as well as the question of access—often informal access—to urban land. The fact that so many urban farmers are women increases these concerns since women often have less access to recourse. There is widespread but poorly understood evidence that the manner in which urban authorities deal with a variety of urban problems—crowding, health, and the widespread failure of urban services and infrastructure to keep up with population growth—end up undermining the livelihoods of the urban poor. Knowledge and examples of best practices in this area have grown, but much remains to be done.

Third, advocates of urban agriculture need to take one step back from time to time and consider more broadly the overall role of urban agriculture vis à vis rural production. Urban agriculture advocates tend to see endless possibilities and demand; agricultural planners and economists, on the other hand, tend to be less sanguine about an overall strategy for urban agriculture. The goal, after all, is not to promote urban agriculture per se, but rather to promote food and nutrition security for the urban poor as well as middle class consumers, and to promote sustainable urban environmental systems. Urban agriculture will undoubtedly

continue to have a role to play, but strategies must be developed locally, and must take into account a broader picture than is sometimes presented. This not only ensures that urban agriculture contributes to sustainable strategies for achieving food security and nutrition, but also to the policies that will sustain the practices required for achieving those goals.

References

- Akpedonu, P., M. Armar-Klemesu, G. Egbi and D. Maxwell.** 2000. "Food Contamination: Vegetable Production Using Waste Water in Accra." In M. Armar-Klemesu, and D. Maxwell, *Urban Agriculture in the Greater Accra Metropolitan Area*. Legon: Noguchi Memorial Institute for Medical Research.
- Allen, P.** 1999. "Contemporary Food and Farm Policy in the United States." In Koc, et al. (Eds.), *Hunger Proof Cities: Sustainable Urban Food Systems*. Ottawa: IDRC Books.
- Armar-Klemesu, M. and D. Maxwell.** 1998. *Urban Agriculture in the Greater Accra Metropolitan Area*. Legon: Noguchi Memorial Institute for Medical Research.
- Atkinson, S. J.** 1992. *Food for the Cities: Urban Nutrition Policy in Developing Countries*. London: Urban Health Program, Health Policy Unit. Department of Public Health and Policy. London: London School of Hygiene and Tropical Medicine.
- Bakker, N. Dubbeling, S. Guendel, U. Sabel-Koscheller and H. de Zeeuw.** 2000. *Growing Cities, Growing Food: Urban Agriculture on the Policy Agenda*. Fefdafing: DSE.
- Bellow, A.** 1999. "Urban Food, Health, and the Environment: The Case of Upper Silesia, Poland." In Koc, et al. (Eds.), *Hunger Proof Cities: Sustainable Urban Food Systems*. Ottawa: IDRC Books.
- Birley, M. H., and K. Lock.** 1998. Health and Periurban Natural Resource Production. *Environment and Urbanization*. Vol. 10 (1), pp. 89–106.
- Braun, J. von, J. McComb, B. Fred-Mensah, and R. Pandya-Lorch.** 1993. *Urban food insecurity and malnutrition in developing countries: Trends, policies, and research implications*. Washington, D.C.: International Food Policy Research Institute.
- Dahlberg, K.** 1999. "Promoting Sustainable Local Food Systems in the United States." In Koc, et al. (Eds.), *Hunger Proof Cities: Sustainable Urban Food Systems*. Ottawa: IDRC Books.
- Drakakis-Smith, D.** 1991. Urban Food Distribution in Africa and Asia. *Geographical Journal* Vol. 157, pp. 51–61.
- Egziabher, A., P.A. Memon, L. Mougeot, D. Lee-Smith, D. Maxwell and C. Sawio.** 1994. *Cities Feeding People*. Ottawa: IDRC Books
- Freeman, D.** 1991. *A City of Farmers: Informal Urban Agriculture in the Open Spaces of Nairobi, Kenya*. Toronto: McGill University Press.
- Haddad, L., M. Ruel, and J. Garrett.** 1998. *Growing Urban Poverty and Undernutrition and Some Urban Facts of Life: Implications for Research and Policy*. Washington, D.C.: International Food Policy Research Institute.
- Koc, M. R. MacRae, L. Mougeot, and J. Welsh.** 1999. *Hunger Proof Cities: Sustainable Urban Food Systems*. Ottawa: IDRC Books.
- Lang, T.** 1999. "Food Policy for the 21st Century: Can it be Radical and Reasonable?" In Koc, et al. (Eds.), *Hunger Proof Cities: Sustainable Urban Food Systems*. Ottawa: IDRC Books.
- Lee-Smith, D. M. Manundu, D. Lamba and K. Gathuru.** 1987. *Urban Food Production and the Cooking Fuel Situation in Urban Kenya*. Nairobi: Mazingira Institute.
- MacRae, R.** 1999. "Policy Failure in the Canadian Food System." In Koc, et al. (Eds.), *Hunger Proof Cities: Sustainable Urban Food Systems*. Ottawa: IDRC Books.
- Maxwell, D.** 1995. "Alternative Food Security Strategy: A Household Analysis of Urban Agriculture in Kampala." *World Development*. Vol. 23(10), pp.1669-1681.
- Maxwell, D., and S. Zziwa.** 1992. *Urban Farming in Africa: The Case of Kampala*, Uganda. Nairobi: ACTS Press.
- Maxwell, D., C. Levin, and J. Csete.** 1998. "Does Urban Agriculture Help Prevent Malnutrition? Evidence from Kampala." *Food Policy*. Vol. 23 (5), pp. 411-424.
- Mbiba, B.** 1995. *Urban Agriculture in Zimbabwe: The Implications for Urban Management, Urban Economy, the Environment, Poverty and Gender*. Brookfield, Vt., U.S.A.: Ashgate Publishing Co.
- Memon, P.A., and D. Lee-Smith.** 1993. "Urban Agriculture in Kenya." *Canadian Journal of African Studies*. Vol. 27(1), pp. 25–42.
- Mvena, Z. S. K., I. J. Lupanga, and M. R. Mlozi.** 1991. *Urban Agriculture in Tanzania: A study of Six Towns*. Morogoro, Tanzania: Sokoine University of Agriculture.
- Mwangi, A.** 1995. "The Role of Urban Agriculture for Food Security in Low Income Areas in Nairobi." FNSP Report

- No. 54. Leiden: African Studies Centre.
- Power, E. 1999.** "Combining Social Justice and Sustainability for Food Security." In Koc, et al. (Eds.), *Hunger Proof Cities: Sustainable Urban Food Systems*. Ottawa: IDRC Books.
- Prudencio-Bohrt, J. 1993.** *Urban Agriculture Research in Latin America: Record, Capacities and Opportunities*. Cities Feeding People Report No. 7. Ottawa: International Development Research Centre.
- Rakodi, C. 1988.** "Urban Agriculture: Research Questions and the Zambian Evidence." *Journal of Modern African Studies*. Vol. 26 (3), pp. 495–515.
- Rogerson, C.M. 1993.** "Urban Agriculture in South Africa: Scope, Issues and Potential." *Geojournal*. Vol. 30(1), pp. 21-28.
- Rose, R. and E. Tikhominov. 1993.** "Who Grows Food in Eastern Europe?" Studies in Public Policy Paper 209. Glasgow: University of Strathclyde.
- Ruel, M. J. Garrett, S. Morris, D. Maxwell, A. Oshaug, P. Engle, P. Menon, A. Slack, and L. Haddad. 1998.** "Urban Challenges to Food and Nutrition Security: A Review of Food Security, Health and Care-Giving in the Cities." FCND Discussion Paper 51. Washington DC: International Food Policy Research Institute.
- Sanyal, B. 1985.** "Urban Agriculture: Who Cultivates and Why?" *Food and Nutrition Bulletin*. Vol. 7(3), pp. 15-24.
- Sawio, C. 1993.** "Feeding the Urban Masses? Towards an Understanding of the Dynamics of Urban Agriculture in Dar es Salaam, Tanzania." Worcester: Unpublished Ph.D. Dissertation, Clark University.
- Smit, J. and J. Nasr. 1992.** "Urban Agriculture for Sustainable Cities: Using Waste and Idle Land and Water Bodies as Resources." *Environment and Urbanization*. Vol. 4(2), pp. 141–151.
- UNDP. 1996.** *Urban Agriculture: A Neglected Resource for Food, Jobs and Sustainable Cities*. New York: UNDP.
- UNICEF. 1990.** "Strategy for Improved Nutrition of Children and Women in Developing Countries." UNICEF Policy Review Paper. New York: UNICEF.
- United Nations. 1998.** *World Urbanization Prospects: The 1996 Revision*. New York: United Nations.
- Yeung, Y. 1985.** *Urban Agriculture in Asia*. Tokyo: UN University.

Ahmad, A; Singh AK (1982). Public food distribution systems for Indian cities. Food for the Cities Symposium of the Fourth Intercongress of the Pacific Science Association. Singapore. September 1981. WP-82-7/3. Honolulu: East West Resource Systems Institute

food security and nutrition

India; food production; food distribution; food policy

In the late 1970s and early 1980s, about one million men, women and children lined up every day in front of the "fair price shop" to buy their weekly or fortnightly ration of food. There were about 50 000 of these privately-owned, government-subsidized shops in India's 3 000 urban centres. This paper examines past trends in food production, urban growth and net availability of food in urban areas. It then presents the results of a study of the organization and efficiency of food procurement by the government-owned corporation; the layout of the public food distribution system in 30 sample cities, and by income group in Delhi; and public perception of the performance of the system in the cities of Delhi, Jaipur, Patna and Ferozabad. The results highlighted glaring intracity, intercity and interregional disparities, and the urgent need to save the fast diminishing welfare content of the public distribution policy. (HC, IDRC)

Aipira, Hoffman; Cockburn, Charles (1994). Urban farming in low-income cities: proceedings of the first workshop on 'Urban Farming: Strategy for Food and Environmental Health in Low-Income Cities. One World Series. 26 p. ISBN 0_904761_44_4. Institute of Advanced Architectural Studies (IoAAS)

food security and nutrition city ecology

waste recycling; food security; climate amelioration; energy; land reclamation;

nutrition; garden city

This booklet contains the workshop report on the first workshop on 'Urban Farming: Strategy for Food and Environmental Health in Low-Income Cities' as well as a paper by Hoffman Aipira 'Urban farming: beyond feeding the masses'. From the notion that in many low income cities informal cultivation of crops and raising animals are increasingly adopted as a strategy for self-reliance in food and fuelwood supply, this paper introduces the concept of urban farming. Issues, policies and practices including problems are discussed. Links with other city systems such as waste management, energy, land reclamation, are evaluated. (NB)

Akinyele, Isaac O et al (1988). Street foods. FAO Food and Nutrition Paper no. 46. 96 p.

food security and nutrition

street food; nutrition; safe food

This is a report of an eight-expert meeting. It concludes that street food has an enormous impact on the urban food supply economically as well as socially and nutritionally. It considers their composition, availability and safety. Experiences were shared from all five continents. It is focussed on 'food protection for urban consumers', with the aim of generating guidelines to ensure adequate and effective measures to provide for the improved quality and safety of street foods. (JS)

**Allen, Patricia (1999). Contemporary food and farm policy in the United States. In: For hunger-proof cities: sustainable urban food systems / Mustafa Koc, Rod MacRae, Luc JA Mougeot and Jennifer Welsh (eds), p. 177-181. ISBN 0_88936_882_1. CAD 35.00. International Development Research Center (IDRC), PO Box 8500, Ottawa, Ontario, Canada K1G 3H9
Supplier: International Development Research Centre (IDRC), Publications Department, PO Box 8500, Ottawa, Ontario, Canada K1G 3H9**

food security and nutrition

economic impact

food policy; United States; agricultural policies; food programmes; food security

Two movements affecting the food security of Americans have emerged in recent years. One is the community food-security movement, dedicated to ensuring that everyone has the ability to obtain a nutritionally adequate diet. The other is the movement to dismantle social-welfare programs to "end welfare as we know it." While interest in domestic food security is increasing in some areas the food-security safety net is unraveling in others. These notions are distinctly at odds with expectations for commercial agriculture. This paper explores the character of the disjuncture between governmental farm and food programs. It examines the demographic characteristics of those who benefit from food programs and of those who benefit from farm programs. The privileging of agricultural producers over poor consumers is framed in its political and ideological context. Ensuring food security for the poor will require innovative food policies capable of operating effectively in this political and ideological environment. (Abstract adapted from original)

Amend, Jörg (1998). Status of soil contamination and soil fertility: the case of urban agriculture in Dar es Salaam. 20 p. Urban Vegetable Promotion Project (UVPP), PO Box 31311, Dar es Salaam, Tanzania

Supplier: Ministry of Agriculture and Co-operatives (MoA&C) and Deutsche Gesellschaft fuer Technische Zusammenarbeit (GTZ).

health and environment

food security and nutrition

soil contamination; soil fertility; lead; cadmium; zinc; pH; organic matter; Tanzania

Reports on a survey in Dar es Salaam conducted by the Urban Vegetable Promotion Project (UVPP) with the aim to obtain more information on soil contamination and soil fertility on its project sites. Generally, the contamination with lead and cadmium was very low. The highest concentrations, still below threshold values, were found along a major artery road. Zinc however might cause some problems in some areas. The highest concentrations were found in an area previously used as a dumpsite. Soil fertility was generally good due to constant provision of organic manure. (NB)

Anon., (1998) **Survival Strategy of Urban Households. Nairobi: The Regional Land Management Unit (RELMA) / Sida. Report of a Workshop on East and Southern Africa, Nairobi, Kenya, 3-5 May 1998**

food security and nutrition, rural-urban linkages

urban food production; food security; survival strategies; rural-urban linkages; workshops

Urban agriculture was neglected by researchers and policy makers alike until recently. A number of researchers who pioneered the topic in East and Southern Africa attended the workshop described here, organized jointly by RELMA, PROP, a Swedish population research unit, and Mazingira Institute, a Kenyan NGO. The focus is on urban food production (UFP) as a survival strategy of poor urban households.

UFP is likely to be critical to food security in the coming decades. This booklet outlines research and policy priorities in easily readable form. It highlights the importance of understanding rural/urban linkages in relation to food security.

Anon. (1997) **Myths about Food and Low Income: If they don't eat a healthy diet, it's their own fault! London: National food Alliance**

food security and nutrition

health; nutrition; food; poverty

This document for community and health workers, local and national policy makers, challenges the myths and assumptions about people's ability to eat healthily on a low income. Myths include, "They don't know how to shop or cook properly" and "They spend too much on take-away food".

Anon., **Food and Nutrition Action Plans on South-East Europe: A Workshop For Policy-Makers, Report on a WHO Workshop. Kranj, Slovenia 1-3 June 2000, European Health21 Target 11.**

Supplier: Scherfigsvej 8, DK-2100 Copenhagen, Denmark

food security and nutrition health / pollution
nutrition; food safety; workshops; health; Europe (Eastern)

Following a consultation in Malta in November 1999, attended by representatives of most of the 51 Member States of the WHO European

Region, the Regional Office began a process to help develop food and nutrition action plans throughout the Region. The participants in the present workshop were from south-east Europe and neighbouring countries. They met to improve the skills needed to develop intersectoral policies in relation to food and nutrition, and to establish a food and nutrition network for south-east Europe. This will enable them to promote sustainable development as well as regional cohesion and stability through the development of food and nutrition action plans. The 35 participants, who came from 8 countries and represented 7 different sectors, expressed interest in and commitment to developing vital cross-sectoral links in the areas of nutrition, food safety and sustainable development. The workshop was based on a training manual entitled Food and nutrition action plans. A manual for policy-makers, which is being developed. The Workshop therefore served to test the training manual, and the participants provided useful feedback in this respect.

Anon., (2001) Urban and Peri-Urban Food and Nutrition Action Plan: Elements for Community Action to Promote Social Cohesion and Reduce Inequalities through Local Production for Local Consumption. WHO Regional Office for Europe Programme for Nutrition and Food Security. ETC, The Netherlands. WHO Centre for Urban Health. European Health21, Target 11 Supplier: WHO Regional Office for Europe, Scherfigsvej 8, DK-2100 Copenhagen, Denmark

food security and nutrition health / pollution community development
action plan; nutrition; food production; agriculture; community initiatives; social issues; policy; health; food consumption, Europe (Western), Europe (Eastern)

The overall objective of the Urban and Peri-Urban Food and Nutrition Action Plan is to promote health and quality of life through an integrated, comprehensive food and nutrition policy, in local communities. The benefits of increasing the amount and distribution of locally grown food, especially vegetable and fruit include: environmental; social; and direct and indirect economic benefits in addition to health benefits. The Action Plan is written for everyone, from the local/municipal authorities through to the community itself, interested in achieving a sustainable development through food and nutrition policies. Policies which advocate sustainable food production, equitable distribution, wide access and increased consumption of vegetable and food is a concrete way of achieving Health for All in the 21st Century. Growing, buying and eating more vegetables and fruits can reduce the risk of non-communicable disease such as cardiovascular diseases and certain types of cancer and can simultaneously promote healthy environments and sustainable development. A common problem throughout the Region is the poor availability and inequitable access to micronutrient rich vegetables and fruit, especially by vulnerable groups, resulting in micronutrient deficiency. This lack of availability and access creates barriers to increasing fruit and vegetable consumption. Actions, described in

this Action Plan, to improve equity; promote local sustainability; empower vulnerable groups; reduce social and health problems and promote social justice while simultaneously preventing micronutrient deficiency and reducing the prevalence of cardiovascular disease and cancer. This document also presents options, space for creativity and adaption to local circumstances.

Anon., (2001), The First Action Plan for Food and Nutrition Policy, WHO European Region 2000-2005. Copenhagen: WHO, Nutrition and Food Security Programme.

Supplier: WHO, Scherfigsvej 8, 2100 Copenhagen, Denmark

food security and nutrition

nutrition; policy; regional planning; health; monitoring & evaluation; evaluation; safe food; food contamination; children's health; well-being; Europe (Western), Europe (Eastern)

Access to a safe and healthy variety of food, as a fundamental human right, was stressed by the International Conference on Nutrition in 1992 and by the World Food Summit in 1996. A supply of nutritious and safe food is a prerequisite for health protection and promotion. In spite of commitments expressed and efforts made at national and international levels, there is still a need for policies which reduce the burden of food-related ill health and its cost to society and health services. This document stresses the need to develop food and nutrition policies which protect and promote health and reduce the burden of food-related disease, while contributing to socio-economic development and a sustainable environment. It insists on the complementary roles played by different sectors in the formulation and implementation of such policies. It provides a framework within which Member States can begin to address the issue. An action plan is proposed for the period 2000-2005, with approaches and activities to support Member States who wish to develop, implement and evaluate their food and nutrition policies.

Argenti, Olivio, (2000) Food for the cities : food supply and distribution policies to reduce urban food security. Food and Agriculture Organization (FAO) / Programa de Gestion Urbana. Food into Cities ; DT/43-OOE / Cuaderno de Trabajo, no. 77

food security and nutrition

food supply; food distribution; food security

This briefing guide for mayors, city executives and urban planners in developing countries and countries in transition is a practical and accessible document for planners and decision makers in towns supplying a lot of basic information and solutions to common problems that arise when trying to feed a growing number of citizens. There is a main text with many pictures and frames containing extra information, case studies and summaries of the text. (WiH)

Armar-Klemesu, Margaret; Maxwell, Daniel G. (2000). Accra: urban agriculture as an asset strategy, supplementing income and diets. In: Growing cities, growing food: urban agriculture on the policy agenda, p. 203-208. DSE, GTZ, CTA, SIDA

economic impact food security and nutrition

farming systems; livestock; vegetable production; asset strategy; land use systems;

food security; health; ecology; economic impact; gender; urban policies; livelihoods; reuse of waste; Accra; Ghana

Urban agriculture was identified as an important element for a study on livelihoods, food and nutrition in Greater Accra. Different farming types were distinguished and analysed with regard to food security, household economics, health ecology and gender. Farming is done for three main reasons dependent on the farming type: cash income, food subsistence and assets strategy for emergencies. Men and women do have different roles in urban agriculture whereby women's activities tend to contribute more to household food security than men's and women dominate the marketing of crops. Urban agriculture improves food security in terms of availability and access. Crops were analysed to assess health risks and it was found that for rural and urban crops the main source of bacterial contamination is in the transport of the crops. Main issues for urban farmers are land, theft and marketing. Urban agriculture is still missing from municipal planning. The loss of agricultural land is a major reason for concern. (NB)

Armar-Klemesu, Margaret (2000). Urban agriculture and food security, nutrition and health. In: Growing cities, growing food: urban agriculture on the policy agenda, p. 99-117. DSE, GTZ, CTA, SIDA

food security and nutrition

food security; health risks; food contamination; food systems; urbanisation

Starting with general concepts and definitions of food security the paper explores its implications in an urban context. The availability, access and safety aspects of food security are discussed and examples of innovative practises to enhance food security are provided. It is argued success of the initiatives depends on awareness. And today city governments are beginning to recognise that local food production may be an important component of urban food systems and food security. (NB)

Asia Urbs (2000) Feeding the Cities. In: Asia Urbs Magazine, no. 5, Summer 2000, pp. 7-8.

Supplier : Asia Urbs Secretariat, Rue Belliard 205, B-1040 Brussels, Belgium

food security and nutrition

food security; Asia; non governmental organisations; development co-operation;

Importing food has always been a major activity of city life. But as the size of populations grow and the logistics become more complex, urban planners are having to address issues of food security. Vincent Rotge, Asia Urbs Project Operations Manager, told an audience in Bangkok recently that the Asia Urbs Programme can play a key role in this area.

Atkinson, Sarah J (1995). Approaches and actors in urban food security in developing countries. In: Habitat International vol. 19 (1995) no. 2 p. 151-163. University of Manchester, UK

food security and nutrition

food security; consumption patterns; access to food

While much has been written concerning rural food security, associations and predictive models, work on urban food security remains fragmented with a reset mostly on epidemiological nutrition or on consumption economics. The paper divides factors affecting urban food security into supply, access, choice, health and social organisation. Some of the policy options available for improving food security for the urban poor are presented in each category. The appropriateness is queried of relying on the household as the basic planning unit in urban areas and the need emphasised for immediate research which can assess the effectiveness of initiatives which attempt to bring different actors and agencies together to develop policy and strategies at the city level. (Original abstract)

Azami, Shaheda (1996). Food processing and urbanization in Bangladesh. In: Appropriate Technology vol. 23 (1996) no. 1 p. 9-11

services food security and nutrition

Bangladesh; Dhaka; food processing; food distribution; street vendors

Deals with street vending of snacks in Dhaka. The article describes a number of cases putting in evidence the entrepreneurship of street vendors and the problems they have to cope with. In order to expand and/or improve their businesses more training in different aspects of food processing techniques and business planning would be necessary, though. (WB)

Azuba, S.M. (2002) The Magnitude of Urban Food Poverty in Uganda, The Case of Kampala. Paper for the "Regional Workshop on Urban Policy Implications of Enhancing Food Security in African Cities", organized by UN_HABITAT (with FAO, IDRC, SIUPA), 27-31 May 2002, Nairobi

food security and nutrition

urban poverty; Uganda; food security

This presentation focuses on the general food situation in Kampala, with an orientation towards urban poverty and urban food insecurity. It is based on existing studies, literature and experiences from working within the city.

Ba Diao, M.. L'élevage laitier en zone périurbaine de Dakar: situation et perspectives. Agriculture périurbaine en Afrique subsaharienne p. 149-159

food security and nutrition urban livestock

Senegal; dairy products; public health; periurban agriculture

Senegal faces a considerable dairy product shortfall. Domestic consumption is for 50% covered by imports, primarily of powdered milk. Private or semi-public initiatives, based on importing exotic animals, have been launched, but nevertheless intensive dairy farming is still at its infancy. It is difficult to acquire inputs required, particular animal feed besides the marketing system and technical management pose problems. The socio-economic environment in the dairy sector makes dairy farming costly and thus hard to practise on small scale farms. (NB - abstract adapted from original)

Bakker, Nico; Dubbeling, Marielle; Guendel, Sabine; Sabel-Koschella, Ulrich; Zeeuw, Henk de (eds) (2000). **Growing cities, growing food: urban agriculture on the policy agenda**. 542 p. ISBN 3-934068-25-1. DSE, GTZ, CTA, SIDA
food security and nutrition R&D methodology
food security; economic aspects; ecology; waste recycling; community aspects; hydroponics; urban livestock; urban farming systems; policy environment; urban planning

This reader contributes to the debate over the value of urban agriculture for sustainable urban development in a thematic way. Definitions and presence of urban agriculture are explored. From there, potential contributions of urban agriculture on food security, household economics and city ecology are examined. Policy and institutional options and implications are discussed. The second part of the reader contains case studies from selected cities in Asia, Africa, Latin America and Europe which pursue a system-oriented approach to understanding urban agriculture and its ecological, economic and food security impacts in different political, economic, demographic and ecological conditions. The authors range from urban planners, researchers, project co-ordinators and NGO staff both from developing and northern countries. (NB)

Barrs, Rob (1997). **Sustainable urban food production in the city of Vancouver: an analytical and strategy framework for planners and decision makers**. Urban Agriculture Notes; on: <http://www.cityfarmer.org/barrsUAvanc.html>. 42 p. School of Community & Regional Planning, Univ. of British Columbia, Canada
Supplier: City Farmer, Canada's Office of Urban Agriculture
food security and nutrition
Canada; Vancouver; urban planning

Provides a broad overview of potentialities and constraints of food production in Vancouver. Sustainability of city development is examined from ecological, social and economic viewpoints. Special focus is on growing food in interstitial and under-utilised spaces in the city. As the author states: 'it is a greening of the city that emerges from the cracks left in the contemporary asphalt'. (WB)

Bastianelli, D. ; Arbelot, B.; Guérin, Hubert **Développement et organisation des filières avicoles autour de Dakar. II. Organisation d'un service d'appui et de contrôle sur la qualité des aliments de bétail Agriculture périurbaine en Afrique subsaharienne, p. 167-172**
food security and nutrition urban livestock
poultry farming; periurban agriculture; Senegal;

The project aimed at supporting the creation of a poultry feed production and raw material quality control service in the Dakar region. The urban poultry sector is characterised by a recent rapid expansion and a somewhat lacking structure. Other features are a larger market, more open to industrial poultry products, easier access

to supplies etc. Eventually there might occur problems regarding noise and manure disposal. This influence as described decreases in Dakar the further one moves from the city. Further development of the sector requires good availability of inputs and services. However this would require a minimum of coherence and organisation, which are lacking. As quality control in the animal feed market is sometimes inadequate producers prefer to cut costs rather than to improve the quality. The key bottlenecks can only be addressed by strong political will. However in some of the areas like organisation of interest groups farmers can organise themselves. Addressing the quality of poultry feed should imply taking into account the entire production system. (NB - abstract adapted from original)

Bellin-Sesay, F., H. Rau and M. Krawinkel (2002) Food Safety in Crises and Emergencies. Institute of Nutritional Science. DSE/ZEL, DLG, CTA. In: *Agriculture + Rural Development*, vol. 9, no. 1, 2002, pp. 20-23.
Supplier: DLG-Verlags-GmbH, Eschborner Landstrasse 122, 60489 Frankfurt am Main, Germany

food security and nutrition

safe food; crisis response; emergency mitigation; food security

Military conflicts and natural disasters or man-made disasters significantly impede the efforts of communities living in affected regions to secure their own food supplies. The initial concern is that there is no longer sufficient food available. While these aspects of food security have been recognised for many years, this article focuses on food safety in the affected regions and especially on quality aspects such as microbe contamination and, soiling and chemical and other types of impurities.

Bellows, Anne C (1999). Urban food, health, and the environment: the case of Upper Silesia, Poland. In: *For hunger-proof cities: sustainable urban food systems* / Mustafa Koc, Rod MacRae, Luc JA Mougéot and Jennifer Welsh (eds), p. 131-135. ISBN 0_88936_882_1. CAD 35.00. International Development Research Center (IDRC), PO Box 8500, Ottawa, Ontario, Canada K1G 3H9
Supplier: International Development Research Centre (IDRC), Publications Department, PO Box 8500, Ottawa, Ontario, Canada K1G 3H9

health and environment

food security and nutrition

city ecology

Poland; health; ecology; access to food; crisis response; organic agriculture; education

Allotment gardening is typically conducted by women, retirees, and other reserve labour. This local production has provided a measure of shelter from the vagaries of inefficient production and food distribution (typical of centralized socialist states) and from inaccessibly high food prices, compounded by unemployment (typical of market systems). However, the yields and safety of local food labour can be reduced in severely polluted regions. The case study from Gliwice, in Upper Silesia, southwest Poland, discusses (1) organizing an acquisition, labeling, and distribution system for retailing chemically tested organic products, linking farmers to consumers; (2) distributing chemically tested produce directly to schools and hospitals and creating subsidies for their purchase; and (3) educating community groups about food contamination and the benefits of organic and farming. (Abstract adapted from

original)

Biehler, Dawn; Sepos, Melissa (1999). Replication manual: the Hartford food system. VISTA and World Hunger Year. 104 p.

community development food security and nutrition
food systems; markets; community supported agriculture; policy

This comprehensive report is about 20 years of work in creating an urban-based local food system in a middle-sized city in a wealthy corner of America, where over ten percent of the population depends on emergency food aid for survival. And it is about how to replicate their success. The mission of the Hartford Food System is *to develop and equitable and sustainable food system capable of addressing the underlying causes of hunger and poor nutrition*. Their programs are grouped into four areas: (i) distribution, (ii) production, (iii) education, (iv) and policy. The first six chapters present an overview of the Hartford system and the last (7.), along with the appendices, presents a replication guide. (JS)

Bishwapriya, Saynal (1985). Urban agriculture: who cultivates and why? A case-study of Lusaka, Zambia. In: Food and Nutrition Bulletin vol. 7 no. 3 (1985) p. 15-24. Massachusetts Institute of Technology, Cambridge, Massachusetts, USA

horticulture food security and nutrition
case studies; horticulture; Zambia;

Most authorities are now convinced of the fact that urban agriculture is more than an accidental activity undertaken by recent rural migrants. This survey shows once more that many urban poor, who migrated to the city a long time ago, are engaged in food production in order to survive. Most of the urban farmers stated the lack of purchasing power as the major reason for farming. There were other reasons as well, however, ranging from the wish to feel settled in their city home to simple enjoyment in gardening. The survey identified two different types of gardens in Lusaka: plot gardens and rainy-season gardens, used for cultivating different types of crops. In plot gardens, higher-grade vegetables were cultivated, such as rape, tomato, cabbage, onion and spinach, as well as fruits, while in rainy-season gardens, staple food, i.e. root crops, maize and beans, were produced. The survey stressed the need for stronger support from local authorities. At this point of time, urban farmers often experience the reverse, jeopardising their activities. In addition, land tenure policies will have to be changed so as to render more land available for the urban poor. (WB)

Blair, Dorothy; Giesecke, Carol; Sherman, Sandra (1997). A dietary, social and economic evaluation of the Philadelphia urban gardening project. Urban Agriculture Notes on: <http://www.cityfarmer.org/nutritionstudy.html#diet>. 6 p. Nutrition Department, College of Health and Human Development,

Pennsylvania State University, University Park, Pennsylvania 16802, USA

Supplier: City Farmer, Canada's Office of Urban Agriculture

horticulture food security and nutrition economic impact

Philadelphia; United States; home gardening; surveys

An evaluation study among 144 gardeners in the Philadelphia Urban Gardening Project and 67 non-gardening controls. Data collected included demographic variables, food frequencies and dietary habits, measures of life satisfaction, and neighbourhood involvement. The average value of garden site produce was assessed. Interestingly, gardening was positively associated with community involvement and life satisfaction. An interesting and important study. (WB - from original abstract)

Boncodin R. Prain, G. and Campilan, D. (2000) Dynamics in Tropical Homegardens. In: Urban Agriculture Magazine, no 1, Maiden Issue, July 2000, RUAF, Leusden The Netherlands.

horticulture food security and nutrition

home gardening; Philippines;

The importance of home gardens, the small areas of cultivated land immediately surrounding a home or a homestead, is often underestimated despite its vital contribution to meeting various household-needs, especially for the poor families in developing countries. The authors explore the importance of homegardens in the Philippines and give the findings of the programme, Users' Perspectives with Agricultural Research and Development (UPWARD).

Bosch, H. van den, D. Eaton, M.S. van Wijk, J. Vlaming and A. De Jager, (2001), Monitoring Nutrient Flows and Economic Performance in African Farming Systems: The NUTMON Approach and its Applicability to Peri-urban Agriculture. Alterra Green World Research, Wageningen, The Netherlands / Agricultural Economics Research Institute (LEI), The Hague, The Netherlands, In: Waste composting for urban and peri-urban agriculture: closing the rural-urban nutrient cycle in sub-Saharan Africa, by P. Drechsel and D. Kunze, pp. 176-192, 2001.

food security and nutrition

Kenya; nutrient balance; farming systems; urban agriculture, Africa (Eastern)

In this chapter the different phases of the NUTMON methodology to analyse nutrient flows and balances for farming systems are described as well as the possibilities of application of the methodology in the context of periurban agriculture. The farm diagnosis tool NUTShell was used to link nutrient flows with economic flows.

Botelho, Zita (1999). Youth, urban governance, and sustainable food systems: the cases of Hamilton and Victoria, Canada. In: For hunger-proof cities: sustainable urban food systems / Mustafa Koc, Rod MacRae, Luc JA Mougeot and Jennifer Welsh (eds), p. 208-215. ISBN 0_88936_882_1. CAD 35.00. International Development Research Center (IDRC), PO Box 8500, Ottawa,

Ontario, Canada K1G 3H9

**Supplier: International Development Research Centre (IDRC), Publications
Department, PO Box 8500, Ottawa, Ontario, Canada K1G 3H9**

community development food security and nutrition R&D methodology
youth; food systems; Canada; ecology

This paper examines the challenges that youth groups encounter in their attempts to participate in urban decision making related to developing sustainable food systems. The background for this discussion includes an examination of several important concepts. The first is urban governance, which often frustrates marginalized political actors, thus the relationship between youth and social movements is significant to this discussion. Two relevant problems with urban institutions are that they generally do not promote ecological sustainability and that they do not support youth involvement in decision-making. The barriers faced by youth groups promoting sustainable food practices in the urban environment are discussed, using two case studies. Interviews were conducted with members of the Ontario-based Hamilton Organic Mentorship Experience project to identify the barriers they encountered in trying to participate in urban governance. The second case study is of a group called LifeCycles, located in Victoria, British Columbia. Finally, different roles and strategies for youth to influence urban decisions are suggested. (Abstract adapted)

**Boulianne, Manon (2001), L'Agriculture Urbaine au Sein des Jardins Collectifs
Quebécois. Empowerment des Femmes ou "Domestication de l'Espace
Public"? (Urban Agriculture and Collective Gardens in Quebec. Empowerment
of Women or "Domestication of the Public Space"?). Laval University, Quebec.
In: *Anthropologie et Sociétés*, vol. 25, no. 1, 2001, pp. 63-80.**

food security and nutrition gender
women's role; urban agriculture; food security; socio-economic aspects; Quebec;
community initiatives, Canada, America (Northern)

In "developed" countries, self-provisioning urban agriculture practices reappear periodically during phases of adjustment of the capitalist economy. It is actually the case in North America. The most recent experiences encourage collective production. They emerge in Quebec in the context of an increasing recognition of the social economy by the State. Supported by community groups, collective gardens appear as an alternative to food help for the impoverished and as a tool to alleviate social exclusion.

Women are the principal protagonists of these recent initiatives, either as members of the supporting groups or as producers. While certain researchers argue that feminine community organizations active in the domain of food security have a strong potential for the individual and collective empowerment of women, others think that in times of decentralization of social programs, these are rather associated with a "domestication of public space". Are the emerging experiences of collective self-provisioning gardening empowering to women or are they contributing to the domestication of the public space? Relying mainly on fieldwork data collected in Quebec, the present article seeks to bring answers to this question.

Bourque, Martin and Cañizares, K. (2000) Urban Agriculture in Havana, Cuba. In:

Urban Agriculture Magazine, no 1, Maiden Issue, July 2000, RUAF, Leusden The Netherlands.

food security and nutrition

Cuba

In this article the authors, at the time working for Food First in the USA, describe the impact of urban agriculture in Havana on availability and cost of fresh produce. The rise of urban agriculture was a clear response on the crisis of the early 1990s, and was stimulated by Government programmes and by the use of appropriate technologies.

Braun, Joachim von et al (1992). Improving food security of the poor: concept, policy and programs. IFPRI Washington DC. 43 p.

food security and nutrition

food security; famine; policy

This report is a very useful overview of the concepts, policies and programs dealing with food insecurity in developing countries. The action strategies explored include: macroeconomics, trade, production, credit, subsidies (safety net), relief, food for work, and education. (JS)

Braun, Joachim von et al (1993). Urban food insecurity and malnutrition in developing countries. IFPRI Washington D.C. 47 p.

food security and nutrition

food security; urbanisation; malnutrition; policy

In countries where per capita incomes have been falling while urbanization has continued to increase, urban food insecurity soars. Widespread efforts to reduce governments' administrative involvement in food distribution are aggravating the problem. This report reviews and takes stock of food and nutrition policy implications of urbanization in the developing world and derives policy and research implications for urban food security. It also considers urban poverty, malnutrition, sanitation and children's nutritional status. Urban agriculture is compared ineffectiveness to other interventions in the crisis. (JS)

Bromley (2000).Allotments, Community Gardens, and Simple Gardening, Anglo-American Traditions of Urban Agriculture. In: H. Hoffmann, K. Mathey (eds.). Urban Agriculture and Horticulture, the linkage with Urban Planning. 2000. International Symposium. Berlin July 2000.

food security and nutrition

United States; economic impact

This paper reviews the long history of urban agriculture in the USA and UK over the last 200 years. It covers responses of the urban poor to economic hardship, designer visions, and institutions involved.

Bruins, Hendrik J (1997). Drought mitigation policy and food provision for urban Africa: potential use of treated wastewater and solar energy. Arid Lands Newsletter no. 42 (fall/winter 1997)

wastewater reuse food security and nutrition

Africa; food security; solar energy; sanitation; irrigation; home gardening

Examines the possibility of reusing treated wastewater for homegardening, and the use of solar energy in the treatment of wastewater. The author concludes that solar energy has significant potential for small-scale powering of water pumps for irrigation, water disinfection and sanitary systems. (WB)

Bulatao-Jayme J; Villavieja, GM; Domdom, AC; Jimenez, DC (1982). Poor urban diets: causes and feasible changes. Food for the Cities Symposium of the Fourth Intercongress of the Pacific Science Association. Singapore. September 1981. WP-82-7/6. Honolulu: East West Resource Systems Institute

food security and nutrition

urban poor; nutrition; quality of diet; small-scale agriculture; Manila; Philippines

This paper examines the nutritional intake of the urban poor and discusses various factors related to it, including household size, income, expenditure on food, mothers' employment, mothers' education, home food production, fuel, health and sanitation, and migration status. A study was cited showing that the dietary intake of earlier rural-urban migrants tended to be better than that of recent migrants and even better than that of non-migrants in the city. All three urban groups had higher nutrient intakes than the rural group. It was noted that home food production can contribute "in no small measure" to dietary adequacy and that the government has taken steps to oblige landowners to cultivate idle land or allow others to cultivate it, even in Metro Manila. (HC, IDRC)

Cabannes, Y and Dubbeling, Marielle. (2001) Urban Agriculture and Urban Planning: what should be taken into consideration to plan the city of the 21st century? In: H. Hoffmann, K. Mathey (eds.). Urban Agriculture and Horticulture, the linkage with Urban Planning. 2000. International Symposium. Berlin July 2000. (on cd-rom).

land use planning food security and nutrition

Latin America; poverty; municipal planning

This is a synthesis paper, providing elements for discussion on the topic of urban agriculture and urban planning, what should be taken into consideration to plan the city of the 21st century. The paper will be based on research currently going in 10 Latin American cities, systematising and analysing experiences with municipal urban agriculture policies and its recommendations regarding policies, norms, mechanisms or structures as well as technological options to transfer or adapt these initiatives elsewhere in the Latin American and Caribbean Region. The analysis will be differentiated per ecosystem and city size involved.

Visual (video, slides) documentation supporting the synthesis paper In its programme “Urban Agriculture and Feeding the Latin American and Caribbean Cities” the Urban Management Programme for the LAC Region and IDRC-Cities Feeding People, are systematising 6 successful city experiences with municipal urban agriculture policies (as well as describing the conditions and processes that contributed to the success of these municipal policies and interventions) and implementing 4 baseline studies on the presence, potentials and obstacles to a sustainable UA development in the 4 cities.

Chakraborty SC (1982). On feeding the cities: some aspects of the Indian scenario. Food for the Cities Symposium of the Fourth Intercongress of the Pacific Science Association. Singapore. September 1981. WP-82-7/2. Honolulu: East West Resource Systems Institute

food security and nutrition

India; food supply; farming systems; food production systems; food policy

With reference to the literature, the author discusses such issues as food production and population growth; food production vs food importation; inequitable access to resources vs Malthusian “natural checks”; the urban dependency on the rural areas for commodities vs the rural dependency on the urban areas for inputs; social justice vs growth, with specific reference to West Bengal; and large farms vs small farms, with respect to high yield varieties. The author observes that a nation cannot practice independent policymaking — domestic or foreign — until it solves its own food problem. The key to solving the food problem lies in finding the appropriate integrative mechanisms between urban and rural society. (HC, IDRC)

Cheng LK (1982). Fresh food supplies in Singapore. Food for the Cities Symposium of the Fourth Intercongress of the Pacific Science Association. Singapore. September 1981. WP-82-7/5. Honolulu: East West Resource Systems Institute

food security and nutrition

food supply; food consumption; Singapore; fresh food

Based on field observation, interviews, and government and private sources of information, this paper attempts to provide an overview of fresh food supplies in Singapore. The emphasis is on patterns of food consumption, marketing structure and distribution channels of four categories of food — vegetables, meat and eggs, fish, and fruit — and trends in their development. For example, mushroom cultivation and poultry farming, which do not take up a lot land and are remunerative, are likely to continue or expand, while small-scale family farms are likely to decline or become more capital intensive. It is noted that due to its limited land base, Singapore has preferred to concentrate on industrialization rather than food production, purchasing food from competitive sources. Dependency on any single source for more than 25% of the supply of any item is precarious, however, and Singapore is striving to diversify its foreign food supply sources. (HC, IDRC)

Chiapa I.; King B. (1997) Urban agriculture in Gweru: household nutrition, economic costs and benefits; results of household monitoring interviews conducted between September 1996 and April 1997. Harare: ENDA.

food security and nutrition economic impact

economic impact; cost-benefit analysis; household survey; Zimbabwe; Gweru

This report presents the results of an International Development Research Centre (IDRC)-supported study (95-0007) carried out in four densely populated suburbs of the small city of Gweru, Zimbabwe. The study involved a preliminary survey to determine the socioeconomic (economic activities, income levels, agricultural practices and tenure) and demographic characteristics of the population in general. The survey provided a basis of comparison between the agricultural and non-agricultural households. It also allowed the researchers to identify 50 farming households in each of the four suburbs for monitoring on a monthly basis during the agricultural period.

The monitoring study revealed that women were the main participants in all agricultural activity, both cropping and vegetable production. Gardening activities were carried out throughout the year, while cropping is only practiced during the rainy season. Gardening relies heavily on organic manure, while chemical fertilizers are used in cropping. There was a higher use of pesticides in the garden than on the crops, however. Low-income urban farmers tended to have more meals per day than their non-farming counterparts and greater ability to purchase protein-rich foods such as meat and fish. This was reflected in their overall health and child growth rate: children under 5 years old from farming households were generally taller and heavier than those from non-farming households. Savings from urban agriculture amounted to approximately 1 287.00 ZWD per annum. It was concluded that urban agriculture benefits a significant proportion of the households in Gweru. A number of recommendations for formalizing and improving the activity are put forward. (HC, IDRC)

Chimbowu, Admos; Gumbo, Davison (1993). Urban agriculture research in East and Southern Africa II: record, capacities and opportunities. Cities Feeding People Series report no. 4. 18 p. International Development Research Center (IDRC), PO Box 8500, Ottawa, Ontario, Canada K1G 3H9

gender food security and nutrition

Africa (Eastern); informal sector; urban policies; urban planning; economic aspects; waste management; urban zoning; environment

Most of the studies carried out were within the context of three broad paradigms: the planning paradigm, urban informal sector studies, and the spational and functional dimensions of urban agriculture. Most studies up to now have been baseline studies covering government policy, land tenure, women practitioners, poverty, homegardens, wastewater usage and urban planning. Aspects requiring further research are land use zoning, actual production levels, urban management and its relation to urban agriculture, marketing studies and studies on the interrelations between urban agriculture, water, waste and disaster. Concretely, studies on

decolonising urban management practices in Zimbabwe towards converging and symbiosis in urban economy and the use of agrochemicals in urban agriculture are suggested. (NB)

Choguill, Charles L (1995). Urban agriculture and cities in the developing world. In: Habitat International vol. 19 (1995) no.2 p. 149-150

food security and nutrition

urban migrants; food security

According to this editorial the provision of food for growing numbers of urban migrants is a key component of the sustainability debate. Because of the ability, necessity and opportunity the urban migrants have, a significant proportion of a city's food requirements are supplied from within the urban boundaries. The papers presented in this issue of Habitat International serve to examine a number of aspects of urban agriculture in order to stimulate further studies and debate. (BC)

City Farmer (1996). Food gardens in South Africa. Urban Agriculture Notes on: <http://www.cityfarmer.org/s.africa.html>. 2 p. City Farmer, Canada's Office of Urban Agriculture

Supplier: City Farmer, Canada's Office of Urban Agriculture

food security and nutrition horticulture

vegetable gardens; gardening practices; Soweto; South Africa

A brief description of the Food Gardens Foundation in Soweto, South Africa. The Foundation developed a method for growing vegetables which is especially useful if there is shortage of land, water or money. (NB)

City Farmer, Canada's Office of Urban Agriculture (1999). City farms in the United Kingdom. Urban Agriculture Notes <http://www.cityfarmer.org/cityfengland8.html>. 3 p. City Farmer, Canada's Office of Urban Agriculture

Supplier: City Farmer, Canada's Office of Urban Agriculture

horticulture food security and nutrition services

city farms; United Kingdom

Brief description of some city farms organised in the Federation of City Farms in the United Kingdom. (NB)

Cohen, Monique (1991). Use of microenterprise in the delivery of food programs to school children. World Bank Washington D.C. 39 p.

food security and nutrition services

street food; policy; nutrition

This report finds that street foods are an essential part of urban diets and

economies. They provide valuable nutrients that may not be supplied from other sources available to some urban families. Research results and a project design are presented to integrate street food into school nutrition programs in developing countries. (JS)

Commission on Health and Environment, World Health Organisation (WHO) (1992).

Food and agriculture. In: Our planet, our health: report of the WHO

Commission on Health and Environment, p. 60-105. ISBN 92-4-156148-3.

Commission on Health and Environment, World Health Organisation (WHO), Geneva, Switzerland

health and environment

food security and nutrition

public health; health hazards; nutritional requirements; agricultural chemicals

Overview paper of the way environment influences human health and well-being. This chapter focuses particularly on the role agriculture plays. Figures are presented on a variety of parameters, such as the relationship between health and dietary intake. Different food contamination sources are listed and examined. In addition, there are paragraphs on occupational hazards and accidents, notably in connection with agricultural chemicals. At the end, recommendations are given for policy development and research on health and environmental effects of current trends in food consumption and agricultural production. (WB)

Committee on World Food Security, Food and Agriculture Organization (FAO) (1996).

FAO/NGO consultation on the world food summit (19-21 September 1996):

keypoints of the consultation. 6 p. Committee on World Food Security, Food and Agriculture Organization (FAO), Via delle Terme di Caracalla, 00100 Rome, Italy

food security and nutrition

food security; policy making; international conferences; NGOs

Contains keypoints of the FAO/NGO Consultation on the World Food Summit held at Rome, November 1996. These adopted points were made on the draft Rome Declaration and Plan of Action (see also UA-524). (WB)

Cottee, P. (ed.) (1999) **Tackling Inequalities in Health and Diet-Related Disease:**

Developing Successful Inter-Agency Partnerships to Promote Fruit and

Vegetable Consumption Particularly to Low Income Groups. London: Sustain;

The alliance for better food and farming

food security and nutrition

food consumption; vegetables; poverty

Developing successful inter-agency partnerships was the focus of a seminar to promote fruit and vegetable consumption among low income groups. Presentations by a government minister, a supermarket nutritionist, campaigning groups and public health experts are all included in the report, along with the policy recommendations and practical proposals that were generated.

Cox, Stephen (1999). Oases of food security in the urban sprawl? The case El Alto, Bolivia. In: Gate: Technology and Development no. 2 (April-June 1999) p. 34-37

food security and nutrition economic impact
Bolivia; El Alto; food security; ornamental plants

The South American continent has the highest degree of urbanisation in the developing world. In the light of major shortages of affordable fresh food for urban communities, the prospects of food production in El Alto are being discussed. Awareness raising on nutritional aspects of food is an issue that needs to be addressed. Furthermore, ornamental plant production by the urban poor for income generation is also included in the analysis. There are plenty of new ideas, but progress in the hard climatic conditions of El Alto has been slow. (NB)

Dahlberg, Kenneth A (1998). The global threat to food security. In: Urban Age (Winter 1998) p. 24-26. Danish Agency for International Development

community development food security and nutrition
food security; food systems

Cities have been lulled by the internationalisation of food and the reduced visibility of hunger. Four threats to food security are identified: (1) population explosion of people, cars and animals (2) global warming with many cities and megacities at the coasts (3) loss of biodiversity and (4) globalisation of injustice and poverty. Local responses are needed based on a shift from linear thinking to systems thinking, the use of much longer term perspectives and a shift in evaluation criteria from production/productivity to long-term health of natural and social systems. One such local response is cities growing more food. To develop adequate responses one should keep in mind that it typically takes five years to learn how the various elements of a local food system operate. (NB)

Dahlberg, Kenneth A (1999). Promoting sustainable local food systems in the United States. In: For hunger-proof cities: sustainable urban food systems / Mustafa Koc, Rod MacRae, Luc JA Mougeot and Jennifer Welsh (eds), p. 41-45. ISBN 0_88936_882_1. CAD 35.00. International Development Research Center (IDRC), PO Box 8500, Ottawa, Ontario, Canada K1G 3H9
Supplier: International Development Research Centre (IDRC), Publications Department, PO Box 8500, Ottawa, Ontario, Canada K1G 3H9

food security and nutrition community development
local food system; processing; distribution; access to food; recycling; United States

This paper draws on the experience of the Local Food Systems Project, to assist six communities in the United States in strengthening their local food-policy capabilities. Underlying the effort was a broad food-systems approach that stresses not only production aspects but also processing, distribution, access, use, recycling, and

waste issues. To assist local communities in the short term, "practical theories" are needed including the interactions of key variables, such as scale and patterns in landscape, population, socio-economic characteristics, and food organization. In the longer term, both capacity- and infrastructure building are needed to strengthen the emerging community of local, regional, and national groups working on more sustainable and localized food systems. (Abstract adapted from original)

Dasso, Jose Andres; Pinzás, Teobaldo (2000). NGO experiences in Lima targeting the urban poor through urban agriculture. In: Growing cities, growing food: urban agriculture on the policy agenda. p. 349-361. DSE, GTZ, CTA, SIDA
food security and nutrition

poverty; vegetable production; community gardens; livestock; food security; health; ecology; economic impact; gender; water supply; NGOs; hydroponics; Peru

The article analyses intraurban agriculture as a strategy for improving the living conditions of urban poor. NGO's introduced and promoted vegetable gardens, hydroponics and the production of small animals. In general the activities have not been very successful targeting the poor because the opportunity costs (time) were high, initial investment was high and technologies were not appropriate. Nevertheless a number of families does produce vegetables and raise animals. One of the difficulties these families raise is in marketing their produce. Guinea pigs are a different case. The reasons to raise them are more than strictly economical as they are consumed for traditional food preferences. An extended market for guinea pigs exists with household producers, commercial family farms and commercial enterprises. In the first two categories mainly women are engaged in the latter almost exclusively men. Another specialised market segment is organic vegetable production. (NB)

Dennerly, Pascale (1994). Inside urban agriculture: an exploration of farmer decision-making in Nairobi: a research proposal for a masters thesis. 18 p.
R&D methodology food security gender

Kenya; decision-making process; gender issues; family relationships; extended families

Provides the outline of a study undertaken to obtain insight in factors affecting farmers' decision-making processes: notably gender differences and resource allocation among different member of the household. Social relations, both inside and outside the family, are examined as to their influence on farmers' decisions. (WB)

Dennerly, Pascale (1995). Cities Feeding People project fact sheets. Cities Feeding People reports no. 15. International Development Research Center (IDRC), PO Box 8500, Ottawa, Ontario, Canada K1G 3H9

R&D methodology food security and nutrition
development projects; food security; food supply; waste recycling; nutrition

A package of 26 fact sheets compiled by the Cities Feeding People Program. The fact sheets give a description of a selection out of more than 50 IDRC-funded projects in Africa, Asia, Latin America and Canada that were initiated between 1997 and 1998. All sheets systematically focus on urban food production and processing; reuse of urban waste; urban nutrition and food security; and research support activity. Project goals, findings and contact information are also provided. Exists also in French. (WB)

Dennerly, Pascale (1995). Inside urban agriculture: an exploration of food producer decision-making in a Nairobi slum. Wageningen Agricultural University, the Netherlands. Masters thesis, 142 p.

food security and nutrition

Kenya; food security; micro enterprise; gender; land tenure

This study examined urban food production a large informal settlement of Nairobi. One of the main features of the study is the addition of qualitative dimension to urban agriculture research in Africa. It analyzes food production at the individual, household and community levels. Access to land is found to be the critical issue. Decision-making is the fulcrum of the study and breaks new ground in the field. (JS)

Diaz-Bonilla, E. and S. Robinson (eds.) (2001) Shaping Globalization for Poverty Alleviation and Food Security, Focus 8. International Food Policy Research Institute (IFPRI) Washington, A 2020 Vision for Food, Agriculture and the Environment

Supplier: IFPRI, 2033 K Street, N.W., Washington D.C. 20006-1002, USA

food security and nutrition

globalisation; poverty alleviation; food security

"A Vision for Food, Agriculture and the Environment" is an initiative of the International Food Policy Research Institute (IFPRI) to develop a shared vision and consensus for action on how to meet future world food needs while reducing poverty and protecting the environment.

This set of Focus briefs presents technical research results that encompass a wide range of subjects drawn from research on policy-relevant aspects of agriculture, poverty, nutrition and the environment. It contains materials that IFPRI believes is of key interest to those involved in addressing emerging food and development problems.

Drakakis-Smith, David; Bowyer-Bower, Tanya; Tevera, Dan (1995). Urban poverty and urban agriculture: an overview of the linkages in Harare. In: Habitat International vol. 19 (1995) no. 2 p 183-193. University of Liverpool, UK; School of Oriental and African Studies, University of London, UK; University of Zimbabwe

food security and nutrition

Zimbabwe; urban poor; selfhelp; home gardening; off-plot cultivation

The urban poor throughout most of Africa have experienced increasing difficulties over recent years as a result of the imposition of structural adjustment programmes. One of the main coping mechanisms has been increased self-help in satisfying basic household needs. Food is one of these basic needs and urban agriculture, both legal and illegal, has grown as a consequence of the difficult economic climate. As yet relatively few studies have attempted to assess the role that urban agriculture plays or might play in social and in environmental terms. This paper reviews the situation in Harare, Zimbabwe as the contextual setting for an on-going investigation of these two important considerations, placing the present policy responses in their appropriate historical and economic framework, and assessing the research issues which need to be addressed. (original abstract)

Drescher, Axel W. (1998). Hausgärten in Afrikanischen Räumen: Bewirtschaftung nachhaltiger; Produktionssysteme und Strategien der Ernährungssicherung in Zambia und Zimbabwe = African homegardens: management of sustainable production systems and strategies of food security. Sozioökonomische Prozesse in Asien und Afrika no. 4. Centaurus, Pfaffenweiler. Habilschrift, Geowissenschaften UniFreiburg, 290 p.

food security and nutrition

household gardening; home gardening; food security; sustainable agriculture; Africa

Major book on household gardens focussed on urban family survival strategies, food security and sustainable small-scale agriculture. Although it is based on African data and the author's African experience, the lessons can be applied in any low-income food-short country. (JS)

Drescher, Axel W.; Iaquina, David (1999). Urban and periurban food production: a new challenge for the Food and Agriculture Organization (FAO) of the United Nations. 53 p. Food and Agriculture Organization (FAO), Via delle Terme di Caracalla, 00100 Rome, Italy

food security and nutrition rural-urban linkages

policy development; CGIARs; development strategies

Addresses both urban and periurban agriculture (together coined PUA), sets the scope, provides definitions of concepts of PUA, describes the institutional framework and gives a large number of examples. This paper serves to make a contribution to strategy development in the framework of the 15th session of the Co-ordinating Committee for Agriculture (COAG). (WB)

Drakakis-Smith, David (1992). Strategies for meeting basic food needs in Harare. In: The rural-urban interface in Africa: expansion and adaptation / Baker J. & Pedersen P.O. (eds). Seminar proceedings no. 27. Uppsala: Nordiska Afrikainstitutet (The Scandinavian Institute of African Studies). pp. 258-283

food security and nutrition rural-urban linkages

Zimbabwe; food security; surveys

A survey was carried out in three areas of varying socioeconomic status in Harare to establish patterns of food production and purchasing. In descending order, these were Mabelreign, a formerly white but now ethnically mixed area; Glen View, a sites and services area reasonably well provided with garden space; and Epworth, a squatter settlement in the process of being formalized. Certain basic items (bread, sugar, tea/coffee, beef and mealie) were purchased by nearly everyone. But, the people of Mabelreign spent the most on food in absolute terms but the least in relative terms. In Mabelreign and Glen View, some four-fifths of those interviewed grew food crops in their gardens. In Epworth, the two-thirds that had gardens used them to grow food. Virtually all of the crops grown in urban gardens were consumed. Only in Epworth was a small proportion (about 5%) sold. A fairly high proportion of families kept chickens. Only 10% admitted to cultivating another plot of land — probably an underestimate as much of such cultivation is illegal — and most of these were in Epworth, where there was more open space and the influence of the authorities less marked. Other sources of food were purchase, cultivated land outside Harare and gifts from rural relatives. It was suggested that governments recognize the importance of urban agriculture by providing garden space in low-cost housing schemes, by regulating land use on the urban periphery and by designating organized areas for cultivation. (HC, IDRC)

Drescher, Axel W.; Bos, F (1993). Report on fieldwork on homegardening in Northwestern Province (Zambia) In: Household Food Security, Nutrition and Health Monitoring Report. 1993 reports. Lusaka, Zambia: Central Statistical Office

Supplier: Central Statistical Office. Lusaka, Zambia.

[genderfood security](#)

[Africa, Zambia, garden cultivation, gender differences, periurban, rural, intervention strategy](#)

This study describes home garden activities and the main problems experienced in maintaining home gardens. Research is conducted in relation to household food security issues, as well as ecological function of home gardens within the land use system. It compares gardening in urban, periurban and rural areas of Zambia. One of the main objectives of this study is to determine differences between male and female gardeners. Findings reveal that more male gardeners are found in periurban and rural areas than in urban areas and access to land in these areas more difficult for women than men. In urban areas, women have longer walking distances to water sources due to the fact that people often cannot chose the garden site. Female household labour is most important in urban home gardens, while male labour is key in rural areas and periurban areas have a mix of female-male labour. Strengthening the role of women is noted as a recommendation for policy makers in the future. (AH)

Drescher, Axel W. (1997). Management strategies in African homegardens and the need for extension approaches Paper presented at the International

Conference on Sustainable Urban Food Systems. Ryerson Polytechnic University. Toronto, Canada. 22-25 May 1997. Papers

gender horticulture food security

Africa, Zambia, household survey, food security, management strategy, women's role, gender differences, intervention strategy, extension services

The relationship between urban food production, food security and urban environments has been largely neglected. This paper focuses on results from a household garden survey conducted during 1992 and 1993. The main objective of the survey was to clarify the role of household gardens for household food security in Zambia and to identify differences and problems in management strategies and their effects on production in different areas. The results reveal that the main actors in urban agriculture are often women. In all compounds studied in Lusaka, women were to a greater extent involved in cropping and gardening than men. Gender analysis is used to reveal differences between men's and women's urban agriculture techniques with respect to alternative methods of plant production, crop species, and use of fertilizer, manure and compost. The paper argues that gender specific differences in agricultural activities need to be paid more attention by extension services in urban and periurban areas. (AH)

Drescher, Axel W. (1999). Urban agriculture in Northern Spain: brief observations:

La Huerta del Abuelo Rosel. Urban Agriculture Notes

<http://www.cityfarmer.org/spain.html>. 2 p. University of Freiburg

Supplier: City Farmer, Canada's Office of Urban Agriculture

horticulture food security and nutrition

community gardens; Zaragoza; Spain

A brief description of 'La huerta del Abuelo Rosel' in Zaragoza, Spain. (NB)

Driss, Ben Ali, Di Giulio, Antonio, Lasram, Mustapha & Lavernge, Marc (1996).

Urbanisation et agriculture en Méditerranée: Conflits et Complémentarités.

Editions L'Hamattan, Paris (Histoire et perspectives Méditerranéennes.

land use planning rural-urban linkages food security and nutrition

land use; policy; urbanisation; planning; Mediterranean ; environment rural-urban linkages environment

This publication is a collection of articles on urbanization and agriculture in the Mediterranean. Most of the articles are in French, some in English. Maps, pictures, and tables enrich the book a lot. In the first part the book deals with problems of urban planning mainly from experience of Magreb countries. The multifunctional character of urban agriculture is pointed out by one article. This paper propose a systematic mode of representing agriculture through a set of indicators, meant as a tool for choosing appropriate planning strategies. In the second part the book deals with specific problems caused by the conflict between urbanization and agriculture, like e.g. water problems and other environmental problems. In the last part the book mainly deals with rural urban linkages [AD].

DSE (2001) Food and Nutrition Seminar, Feldafing, 14th - 25th May 2001, German Foundation for International Development (DSE)/ Centre for Food, Rural Development and the Environment (ZEL), German Agency for Technical Cooperation (GTZ), German Agro Action

food security and nutrition
conferences; food security; nutrition

In May 2001, an international seminar was held in Feldafing, Germany, on the subject of food and nutrition security, and with specific attention paid to programmes addressing acute and chronic malnutrition. Today, still more than 800 million people live in conditions of endemic hunger and poverty in rural and urban areas whereas the wealth of a minority continues to increase. Especially women and children, who belong to the most vulnerable groups, require urgent attention. In a world enjoying record wealth, food security is no longer seen as a mere problem of producing enough food for mankind, but incorporates, besides others, the question of access to sufficient food, health-nutrition relationship, aspects of knowledge and education. The main focus of this seminar is to provide an holistic understanding of the complex nature of food security and nutrition, categories of causes, different levels of actors and the variety of interventions to tackle either acute or chronic food insecurity in urban and rural areas. Participants looked at other disciplines' point of view and in this way, got an improved understanding of the various instruments at hand.

The main focus was the analysis and appraisal of the different instruments and approaches for the preparation, planning and management of food security programmes.

In order to provide basic conceptual knowledge for planning and management of food security programmes the following aspects have been addressed:

- Food and nutrition security: definitions and concepts
- Food and nutrition security: problems and perspectives
- Conceptual framework of food and nutrition security
- Selection of indicators for food and nutrition programmes
- Assessments within the cycle of a food and nutrition security programme
- Methods for analysis and assessment of aggregate food deficits
- Impacts of macro and sector policies on food security
- Instruments on the prevention and management of food crises
- Targeted interventions to improve food security of vulnerable groups
- Interventions to achieve nutrition security

Dubbeling, Marielle (1999). Urban agriculture and feeding Latin American and Caribbean cities. Urban Agriculture Notes
<http://www.cityfarmer.org/feedingLatAmer.html>. 5 p. Urban Management

Program Latin America and the Caribbean, Garcia Moreno 1201 and Mejia, Quito, Ecuador

Supplier: City Farmer, Canada's Office of Urban Agriculture

food security and nutrition horticulture R&D methodology

food security; Latin America; best practices; poverty alleviation; waste; resource management; food security; nutrition; income generation; gender; environment

Presents the best practices and city consultation project of the Urban Management Program for Latin America and the Caribbean. The thematic orientation is on urban poverty alleviation, urban environmental management and participatory urban governance. The objective of the project is to assist a group of resource and associate cities with documenting urban agriculture experiences, producing analysis of urban agriculture activities and implement a city consultation process. (NB)

Ellis, Frank; Sumberg, James (1998). Food production, urban areas and policy responses. In: World Development vol. 26 (1998) no. 2 p. 213-225

rural-urban linkages food security and nutrition city ecology

Africa; rural-urban linkages; food policy

A literature review focusing especially on food production in and around sub-Saharan cities and towns. The authors emphasise the importance of rural-urban interactions in resource management and output markets. At the same time, they warn against too high expectations about the role of urban agriculture for food security of urban dwellers. (WB)

Enríquez, Laura J (1999). Cuba's new agricultural revolution: the transformation of food crop production in contemporary Cuba" San Francisco: Food First.

food security and nutrition

horticulture; sustainable agriculture; food security; policy; Cuba

This report details the structural changes that Cuba has made over the last decade in order to transition between large, conventionally managed farms to smaller scale, low-input cultivation. Enríquez describes the circumstances that lead to the transformation of state farms into worker controlled cooperatives, the emergence of farmer's markets, and the overall shift in agricultural strategy that has grown in response to food security concerns generated by the economic crisis. The Cuban experience shows the increases in quantity and diversity of foodstuffs that can result from effective policies to promote small farms and localized production. (JS adapted)

EURO-URBANUT (EUN) (1998). urban food and nutrition security: WHO action plan for vulnerable groups. 8 p.

food security and nutrition health and environment

political aspects; urban food; nutrition

Contains elements of a description of a WHO urban food and nutrition Action Plan aimed at supporting, protecting and promoting the consumption of vegetables and

fruit. (WB)

European Commission (EC). Network for the Pan-European food data bank based on household budget surveys: DAFNE 2. 32 p. European Commission (EC), Directorate-General XII, Science, Research and Development, 200 rue de la Loi, B-1049 Brussels, Belgium; National Nutrition Centre, National School of Public Health, 196, Alexandras Ave., GR-11521 Athens, Greece

food security and nutrition economic impact
surveys; food security; databases

Describes the Data Food Networking initiative, aiming at the creation of a pan-European food data bank based on household budget surveys. Data referred to households as the statistical unit and covered 5 European countries, namely Belgium, Germany, Greece, Hungary and Poland. (WB)

Fairholm, Jacinda (1999), Urban agriculture and food security initiatives in Canada : a survey of Canadian non-governmental organizations. Cities feeding people report series no. 25. International Development Research Center (IDRC), PO Box 8500, Ottawa, Ontario, Canada K1G 3H9

food security and nutrition
Canada ; food security; community-based organisations; food distribution

Gives an overview of community-based activities in Canada on creating sustainable food systems. The report highlights the diverse strategies of people and groups to recreate food production and distribution systems, focusing on diversification and on rendering the system more locally-based. This paper makes a useful contribution to the debate on the role of urban food production in feeding cities. As so often described for other places, limited access to land, by-law restrictions, input requirements, and restrictive urban planning are often cited as challenges to realising the full potential for urban food production. There is much attention for creating alternative food distribution arrangements and alternative marketing methods, such as farmers' markets, food co-operatives, buying clubs and community kitchens. The report comes with an annotated list of addresses of networks and organisations in Canada. In addition, there is a bibliography sorted per subject. (WB)

Fisher, A et al (1998). Local Food Policy. Community Food Security Coalition

community development land use planning food security and nutrition
R&D methodology
policy; NGOs; community associations; United States

This manual includes: (i) Tips for Organizing Coalitions and Food Policy Councils, (ii) Inventory of Food-related Policies in Local Government, (iii) Action Ideas for Changing Local Policy, (iv) Tips for Operating Food Policy Councils and (v) Case studies of nine Food Policy Councils and Similar Organizations. It provides useful information for assessing how city and county policies affect food production and distribution, and how they can be changed to promote community food security. It is

a valuable resource for activists, academics, policy makers and others working on food and agriculture at the community level. 75 pages, (JS adapted from author)

Fisker, A.M. (2000) The cutting edge between Agenda 21, food, and design in the new millennium. In: H. Hoffmann, K. Mathey (eds.). Urban Agriculture and Horticulture, the linkage with Urban Planning. 2000. International Symposium. Berlin July 2000.. (on cd-rom).

land use planning food security and nutrition
food; Germany; design

Agenda 21 sets out priorities and strategies to stop and reverse environmental degradation and to stimulate sustainable development. The realisation of sustainable development requires new ways of thinking, but it often leaves the question of how the individual moves from the Agenda towards concrete action. The links between the single citizen/consumer, food/meal and the design of the physical room is the central topic subject of this project, described here.

Foeken, Dick Owuor, S.O., Klaver, W. (2002) Crop cultivation in Nakuru town, Kenya: Practice and potential. African Studies Centre, ASC working paper 50/2002

food security and nutrition community development extension,
marketing and credit services
crop production, urban agriculture, practical experience

Urban poverty is increasing in Kenya, and farming in town is one of the ways people employ to cope with this problem. This is mainly done for self consumption. 40 different types of crops were established. Inputs used are chemicals, organic inputs and irrigation. Crop cultivation potential is much bigger given the low average productivity, but constraints should be removed.

The environmental aspect of urban cultivation is important, since crops are grown at polluted sites and sometimes raw wastewater is used for irrigation.

Foeken, Dick; Mwangi, Alice Mboganie (1998). Does access to land have a positive impact on the food situation of the urban poor? A case study in Nairobi. In: East African Social Science Research Review vol. 14 no. 1 (1998) p. 1-15. 15 p.

land use planning food security and nutrition rural-urban linkages
Kenya; urban poor; food security; land rights; access to land

Examines the vital issue of whether and how access to farm land influences the household's food and income situation. There is a general introduction into coping strategies of the urban poor as well as an interesting review of existing access rights to urban land in Nairobi. Interestingly, for this aspect hardly receives any attention at all, the authors also investigate the phenomenon of urban households realising part of their livelihood from rural sources, through access to rural land, in particular. Previous surveys had revealed that this was the case for Kenyan middle income

groups, in particular. The land is not necessarily farmed by the urban dweller himself / herself: often, it is a member of the family. The authors conclude that having access to a rural plot seems to have a positive effect on income and that, in addition, they seemed to be better off than those with access to an urban plot. Mechanisms involved are not entirely clear, however. A paper with a refreshing view. (WB)

Foeken, Dick; Mwangi, Alice Mboganie (2000). **Increasing food security through urban agriculture. In: Growing cities, growing food: urban agriculture on the policy agenda, p. 303-327. DSE, GTZ, CTA, SIDA**

food security and nutrition

food security; nutrition; food policy; land use systems; health; ecology; economic impact; land tenure; gender; urban policies; reuse of waste; poverty; ornamental plants; Kenya

Urban farming can be seen everywhere in Nairobi, especially in informal densely populated residential areas, which do not exist on official maps. Small-scale subsistence crop cultivation and small-scale livestock production are dominant. There is just a little market oriented small-scale crop production as well as some large-scale commercial farms. In crop production, the labour is mainly provided by women. Practices are usually very simple. Livestock is kept in open spaces in the city, with poultry being the most important type. Apparently, lack of employment opportunities forces people into agriculture. Roadside, riverside and sewage line farming are illegal which also means that many of the poor urban farmers do not qualify for extension.

Farming is primarily done to improve households' food situation, in quantity and dietary composition. In some areas food intake and nutritional condition of children in farming households is better than non-farmer households. The most important urban-specific problem is the theft of crops. Some studies indicate that almost all cultivators recycle organic material. There has been little effort in developing urban agriculture in Nairobi, and authorities in general ignore the activity. Perspectives for urban farming would improve, if there would be official recognition and if land tenure would be more secure. Strategies to promote urban agriculture should focus on changing the attitudes of local governments and stressing the environmental benefits of urban agriculture. (NB)

Food and Agriculture Organization (FAO) (2001) **Proceeding of Regional Seminar "Feeding Asian Cities", Bangkok, Thailand, November 2000. On:**

<http://www.fao.org/waicent/faoinfo/agricult/ags/agism/sada/asia/index.htm>

food security and nutrition; horticulture; services

Asia; marketing; horticulture

This seminar was organised by the Association of Food Marketing Agencies in Asia and the Pacific (AFMA), and the Regional Network of Local Authorities for the Management of Human Settlements (CITYNET), in collaboration with GTZ, International Union of Local Authorities (IULA), Ministère des Affaires étrangères (France), UNDP/UNCHS/World Bank - Urban Management Programme - Regional Office for Asia and the Pacific, World Union of Wholesale Markets (WUWM) and with

the technical support of FAO.

Food and Agriculture Organization (FAO) (2001) Proceedings of Sub-Regional Expert Consultation on “Urban and Periurban Horticulture in South-African Countries”. Stellenbosch, South Africa. January 2001.

Food and Nutrition; horticulture

Southern Africa; horticulture; Malawi; Zimbabwe; South Africa; Botswana; Tanzania; Namibia; Mozambique

The papers of this expert consultation on urban agriculture, focusing on horticulture in Malawi, Zimbabwe, South Africa, Botswana, Tanzania, Namibia, and Mozambique. Three discussion groups were organised on Opportunities and Constraints; Assessment of Project Profiles on selected countries; and Training Needs and Methodologies.

Food and Agriculture Organization (FAO) (1998). Methodological workshop for the compilation of urban food security and nutrition profiles, Maputo, Mozambique, February 10-11, 1998. Field document no. 1b. 37 p. Ministry of Planning and Finance, Department of Population and Social Development, Ministry of Health, Nutrition sector, Food and Agriculture Organization (FAO)

food security and nutrition R&D Methodology

household food security; information systems; Mozambique; assessment; urban food; nutritional status

The proceedings include presentations and reports prepared by resource people together with a summary of the issues raised during the workshop. The workshop focused on developing methodologies for the compilation of household food security and nutrition profiles in urban areas in Mozambique to feed into the Food security and Nutrition Information Network. (NB)

Food and Agriculture Organization (FAO) (1998). Feeding the cities. Food into Cities collection no. DT/39-98E. Food and Agriculture Organization (FAO), Via delle Terme di Caracalla, 00100 Rome, Italy

food security and nutrition

food security; access to food; food availability; nutrition; food supply; food distribution; institutional aspects; access to credit; perceptions

“The State of Food and Agriculture 1998” analyses the issue of urban food security starting from trends and factors affecting urban food security. From there, food supply to the city and problems of distribution at various levels is discussed. In conclusion strategies to improve food supply and distribution efficiency in the cities are suggested including developing new partnerships, credit access, raising consciousness and changing perceptions and institutional environment issues. (NB)

Food and Agriculture Organization (FAO) (1999). AG21 Magazine: spotlight issues in

urban agriculture.. 3 p. Food and Agriculture Organization (FAO), Via delle Terme di Caracalla, 00100 Rome, Italy. On:
<http://faoext02.fao.org/WAICENT/FAOINFO/AGRICULT/magazine/9901sp2.htm>

food security and nutrition

periurban agriculture; household farming

The paper summarises the report on urban and periurban agriculture prepared by COAG. The paper assesses the importance of urban agriculture and the benefits and constraints are reviewed. Urban agriculture is estimated to involve 800 million urban residents worldwide. (NB)

Food and Agriculture Organization (FAO) (1999). Urban food security and food marketing: a challenge to city and local authorities. Food into Cities collection no. DT/40-99E. Food and Agriculture Organization (FAO), Via delle Terme di Caracalla, 00100 Rome, Italy

food security and nutrition services

food security; food marketing; urban planning; distribution systems

The relation between food security and food marketing and ways to overcome inhibitions in food marketing to improve food security in the context of urban growth are analysed. Food security especially of low-income urban consumers depends on the level and stability of the cost of accessing food and the variety and quality of food available to them. Major problems in marketing and what city managers and planners can do to enhance food security are presented. Efficiency improvements of all marketing and distribution systems are most important for this. (NB)

Furedy, Christine; Maclaren, Virginia; Whitney, Joseph (1997). Food from waste: urban pressures and opportunities for food production in Asian cities. 28 p. Ryerson Polytechnic University, Toronto

waste recycling food security and nutrition

South Asia; South East Asia; organic wastes; composting; aquaculture; waste reuse; health risks

Waste reuse and recycling has a longer tradition in Asian cities than anywhere else in the world. Waste-based food production is an important source of food as well as employment to farmers, waste workers and traders involved. Within the region, waste sources or reuse sectors are different from one country to another as a result of differences in religion and culture. Economic factors such as land, transport and cost of fertilisers also determine the type of waste which is going to be used. Other areas of concern are health and environmental regulations, due to the fact that urban waste can be hazardous to the public health. This risk is especially increasing nowadays with the changes in urbanisation and consumption habits. At the same time, changes in life style can create new opportunities for using waste. This report explores these possibilities and gives suggestions for stronger links between waste reuse and urban agriculture. Further research areas are suggested. Reference is made to different projects in South and Southeast Asia. One of the main goals of this

report is to start filling the gap between the practical work done on the subject, with a long-standing tradition, and the written materials which are still lacking. (WB)

Gabel, Stephanie (2001) Methodological reflections on using participatory and action oriented research with women farmers in Harare. Paper for topic 1 of the workshop "Appropriate Methodologies for Urban Agriculture", October 2001, Nairobi, Kenya. Proceedings, available On: www.ruaf.org.

R&D methodology food security and nutrition gender
Zimbabwe; survival strategies; policy; gender; equity; participatory approaches

This paper presents the methods used for a case study in Harare, Zimbabwe in the role that people play in food provisioning within their household and, second, their use of urban cultivation on open spaces as both a household survival strategy and a food provisioning. Another aspect of the research was focused on policy and governance issues related to urban agriculture, taking special note of local level policies and decision making in regard to: gender sensitivity, equity and public participation. The methodology describes various participatory approaches that were used during the research.

Garden to kitchen newsletter. Family Food Production and Nutrition Project, Unicef Pacific Operations, c/o UNDP, Private Mail Bag, Suva, Fiji

food security and nutrition horticulture
Pacific Islands; children; malnutrition

This quarterly targets the Pacific Islands, contains interesting assorted information about homegardening in the Pacific setting. The few issues in our possession report about pest control, country profiles, cultivation techniques, news from the field, malnutrition related diseases, and so forth. (WB)

Gardner, Gary; Halweil, Brian (2000). Underfed & overfed: the global epidemic of malnutrition. WorldWatch Washington DC. 150 p.

food security and nutrition
food insecurity; malnutrition; children

This paper efficiently defines the growing problem of malnutrition and hunger. It stresses the issue of urbanization and the importance of urban agriculture in resolving the issue of access to micronutrient. (JS)

Garnett, Tara (1996). Growing food in cities: a report to highlight and promote the benefits of urban agriculture in the UK. 90 p. ISBN 1_900_670_56_9. National Food Alliance / SAFE Alliance, 5-11 Worship street, London EC1A 2BH, UK

food security and nutrition city ecology
community development; economic development; vegetable production; horticulture; United Kingdom;

In the UK, many poor urban neighbourhoods have become food retailing deserts, where access to good food shops and markets is rare. Parts of the countryside too are becoming desertified economically with farming employing just over 2% of the population. The author pleads for people to reconnect to the land and their culture by growing food, following a long tradition of allotment gardening in the UK, and also with the 'Dig for Victory' campaign during the 2nd World War in mind. This report presents and analyses a wide variety of case studies classified by aspect: community development, economic development, education, environment, health, leisure, and sustainable neighbourhoods. There is a useful resource section with addresses in the UK. A number of recommendations are formulated with regard to policy integration; funding, support and promotion; and land and water. (WB)

Garnett, Tara (2000). Urban agriculture in London: rethinking our food economy. In: Growing cities, growing food: urban agriculture on the policy agenda, p. 477-500. DSE, GTZ, CTA, SIDA

services food security and nutrition city ecology
food policy; nutrition; community development; land use systems; health; ecology;
economic impact; gender; urban policies; reuse of waste; poverty; land tenure; food
systems; United Kingdom; food deserts; education

Starting with the ecological footprint of London the London food system is analysed. Increasing alienation of Londoners from agriculture and the emergence of food deserts are raised as issues. Despite a small contribution in quantities produced a wide range of farming activities occur in London (allotment gardens, private gardens, county farms, parks etc). From this perspective the potential and actual contribution of urban agriculture towards health, the environment, household economies, education and training and community development are discussed. Factors affecting urban agriculture and the perspectives for urban agriculture are presented in which it is argued that sustainable food growing is a metaphor for social change, catalysing new ways of thinking about our society, our economic system and our environment. It is argued that there are plenty of opportunities in the multiple and flexible forms of urban agriculture. (NB)

Garrett, James; Ruel, Marie T (eds) (2000). Achieving urban food and nutrition security in the developing world. Focus '3', 2020 Vision, IFPRI Washington DC.

food security and nutrition
nutrition; livelihoods; women; health; food security

This publication includes ten papers by renowned authors. It begins with the conclusions that (i) "-- growth in urban poverty, food insecurity and malnutrition and their shift in their concentration from rural to urban will accompany urbanization." (ii) "Urban food security may -- have a direct link to agriculture -- the poor often (have) a 'home garden' or raise small livestock --." (iii) "Urban planners and local government should consider how to incorporate -- urban agriculture in their (development) plans." The papers include the following topics: (i) urbanization, (ii) rural-urban links, (iii) labor markets, (iv) food distribution, (v) urban agriculture, (vi) nutrition in transition,

(vii) women as producers, (viii) health, (ix) programming urban food security. (JS)

Garrett, Steven; Feenstra, Gail (1999). Growing a community food system. Western Regional Extension WREP0135, Community Ventures Series.

community development food security and nutrition R&D methodology
food system; community; policy; evaluation

This short book defines what a community food system is and how to improve it. It provides guidance and example for project design, coalition building, strategic planning, community food system assessment, attracting resources/funding, building an organization, shaping policy and carrying out an evaluation. The authors' conclude that the following are essential ingredients: (i) long-term vision, (ii) incorporating the values of a wide cross section of the community, (iii) through assessment of the existing community food system, (iv) finding supporting leaders, (v) beginning with doable small projects, (vi) evaluating and documenting progress towards goals, (vii) finding resources on time, and (viii) maintaining a viable organizational structure (JS)

Gavrilov, Alexander (1997). Rooftop gardening in St. Petersburg, Russia. Urban Agriculture Notes on: <http://www.cityfarmer.org/russiastp.html#russiastp>. 3 p.

**Center for Citizen Initiatives, St. Petersburg, Russia
Supplier: City Farmer, Canada's Office of Urban Agriculture**

horticulture food security and nutrition
rooftop gardening; home gardening; St. Petersburg; Russia

The Rooftop Gardening Program in St. Petersburg started in 1993. This short article gives facts and figures and describes some of the techniques used in the project. The project achieves much impact with citizens despite a complete lack of interest from city administration. (WB)

Gefu, JO (1992). Part-time farming as an urban survival strategy: a Nigerian case study. In: The rural-urban interface in Africa: expansion and adaptation / Baker J. & Pedersen P.O. (eds). Seminar proceedings No. 27. Uppsala: Nordiska Afrikainstitutet (The Scandinavian Institute of African Studies). pp. 295-302

food security and nutrition rural-urban linkages
Nigeria; survival strategies; surveys; urban poor

Several survival strategies are being adopted in the wake of structural adjustment in Nigeria. One of these is part-time farming. This chapter presents the results of a survey questionnaire on part-time farming that was distributed to 550 academic and non-academic staff members of Ahmadu Bello University, Main Campus, Zaria. A total of 110 questionnaires were returned. All of the respondents indicated that they were involved in a variety of part-time farming activities, ranging from home gardening to commercial production. The involvement of all but 16% predated structural adjustment. Maize and cowpeas were the most commonly cropped grain,

maize for sale and cowpeas for home consumption. A variety of vegetables were grown for home consumption around the house or on small patches of land near residences or office buildings. About 81% of the respondents kept some livestock: goats, poultry and sheep, in that order. Most kept fewer than five units of any one species (except poultry), indicating that livestock raising was geared to home consumption. The profit margin was very narrow. It was concluded that urban agriculture is likely to remain a prominent feature of the informal sector in urban Nigeria. It is recommended that urban farmers form their own producer associations the better to take advantage of government-subsidized production inputs and obtain credit.

German NGO Forum for Environment and Development (2001) Drawing on Farmers' Experiences in Food Security, local successes and global failures.

food security and nutrition
agriculture; IFPRI; NGO Forum

This reader presents commissioned papers, giving a critical analysis and views of a variety of experts working with rural and urban communities in developing countries. The reader was especially developed as an input of the NGO Forum at the IFPRI Conference on Food Security held in Bonn, September 2001.

Global Facility for Urban Agriculture (1997). Urban agriculture for food security, jobs and waste recovery: roundtable of top local government officials. Second International Colloquium of Mayors on Governance for Sustainable Growth and Equity (UNDP). 10 p. Global Facility for Urban Agriculture

food security and nutrition waste recycling R&D methodology
municipal policies; urban planning; open spaces

This roundtable took place in the framework of the Second Colloquium of Mayors on Governance for Sustainable Growth and Equity, held at UNDP, New York, July 28-30, 1997. A number of city case studies were presented by mayors outlining the status of urban agriculture in their cities. In a plenary discussion, challenges and benefits of urban agriculture were discussed. (WB)

Gonzalez Novo, Mario; Murphy, Catherine (2000). Urban agriculture in the city of Havana: a popular response to a crisis. In: Growing cities, growing food: urban agriculture on the policy agenda, p. 329-347. DSE, GTZ, CTA, SIDA

horticulture food security and nutrition
food security; food policy; land use systems; health; ecology; economic impact; gender; urban policies; reuse of waste; poverty; land tenure; environmental regulation; hydroponics; Havana; vermiculture; biopesticides; biodiversity; reforestation; Cuba

Havana probably offers the most successful example for which the concept of urban agriculture was applied as a response to a food crisis, not only by individuals, but

also as a government-supported strategy. The main idea of urban agriculture in Havana is "Production by the neighbourhood, for the neighbourhood". In general it is an intensive high input, high output system. There are many different forms of urban farming: (a) popular gardens, (b) basic production co-operative units with about 10 to 15 members, (c) state farms (d) individual farms (e) co-operative supply units. The organopónicos and intensive gardens, which work well in the urban setting, are important in the total production. The government made land available for farming providing secure land-use rights and there are a number of regulations concerning urban agriculture e.g. on the use of pesticides. There is a large network of support services for producers and direct marketing by the producers has been facilitated. Urban agriculture increased the diversity of crops and had a dramatic impact on the deteriorating food situation in Havana. Overall 117,000 people work in jobs related to urban agriculture. Waste is recycled through urban agriculture a reforestation programme started and urban agriculture has become an important element in urban development and different departments co-operate in improving the impacts of urban agriculture. (NB)

Gravestien, Xandra; Lubek, Marianne van (1995). Desk study VPO evaluation: intervention strategies to promote urban food security. 154 p.

food security and nutrition

development projects; food security; government policies

Analyses the urban food security aspects in a number of Dutch development projects in order to improve intervention strategies of a number of Dutch NGOs, grouped together as intermediary donor organisations (IDOs). A large number of projects are described in an annex. (WB)

Gura, Susanne (1996). Vegetable production: a challenge for urban and rural development. In: Agriculture + Rural Development, vol. 3 (1996) no. 1, p. 42-44 Supplier: Technical Centre for Agricultural and Rural Cooperation (CTA); Deutsche Stiftung fuer Internationale Entwicklung / Zentralstelle fuer Ernaehrung und Landwirtschaft (DSE/ZEL); Deutsche Gesellschaft fuer Technische Zusammenarbeit (GTZ)

horticulture food security and nutrition

vegetable production; consumption patterns; nutrition; farming systems

Vegetables play an important role in food security. Vegetable production has been mostly concentrated on species with a high market value. However, the poor usually can't afford these types of vegetables. Urban poor mainly consume leafy vegetables which wither quickly. Urban agriculture can play an important role to increase this production. Three systems of production are distinguished: urban shifting cultivators, household gardeners and periurban market producers. It is argued that these systems need development support for land saving technologies, improved recycling of waste, recycling technologies and urban community development approaches and interdisciplinary approaches. (NB)

Guyer, JI (1987). Feeding African cities: studies in regional social history.
Bloomington: Indiana University Press.

food security and nutrition

Africa; history; food security; food supply

This book explores the historical connections between three aspects of regional food supply systems: the income/price relationship for producers and consumers, organizational forms in production and trade, and the broader social dynamic resulting from the interface between regional social organization and colonial and post-colonial policies. The introduction reviews the literature on the subject and is followed by four case studies addressing particular situations: "Brittle trade: a political economy of food supply in Kano," by Michael Watts; "Feeding Yaoundé, capital of Cameroon," by Jane I. Guyer; A century of food supply in Dar es Salaam: from sumptuous suppers for the sultan to maize meal for a million," by Deborah F. Bryceson; and "The development of food supplies to Salisbury (Harare)," by Paul Mosley. The epilogue seeks to identify similarities and differences in the four experiences in terms of evolution, watersheds and patterns of change. (HC, IDRC)

Haen, H. de (2002) Enhancing the Contribution of Urban Agriculture to Food Security In: Special Edition Urban Agriculture Magazine: World Food Summit, Five Years Later, RUAF, pp. 1-2, 2002

food security and nutrition

urban agriculture; food security

At the World Food Summit 1996, representatives of 185 nations and the European Community pledged to eradicate hunger in all countries, with an immediate view to halving the number of undernourished people in 2015. Five years later it is estimated that hunger still afflicts one in five of the developing world's people and that nearly 30 percent of the world's population suffer from some form of malnutrition. An increasing part of these people live in urban areas. Rates of urbanisation are expected to reach 83% in Latin America and the Caribbean, 53% for Asia and the Pacific and 55% for Africa by 2030. Ensuring food security and appropriate nutrition of the urban population - and in particular of the poorest households - has become a major challenge worldwide.

Hahn, Nathalie (1991). Backyard gardening: a food security system managed by women. In: Entwicklung + ländlicher Raum vol. 1991 no. 1 p. 24-27.
International Fund for Agricultural Development (IFAD), 107, Via del Serafico, 00142 Rome, Italy

food security and nutrition

home gardening; gender issues; food security

Highlights the importance of home gardening to contribute to food security, and, particularly, the role women play herein. The author suggests various directions for further research and innovation. Interestingly, homestead production of spices receives special attention. (WB)

Hamm, Michael W; Baron, Monique (1999). **Developing an integrated, sustainable urban food system: the case of New Jersey, United States.** In: **For hunger-proof cities: sustainable urban food systems / Mustafa Koc, Rod MacRae, Luc JA Mougeot and Jennifer Welsh (eds), p. 54-59. ISBN 0_88936_882_1. CAD 35.00. International Development Research Center (IDRC), PO Box 8500, Ottawa, Ontario, Canada K1G 3H9**
Supplier: International Development Research Centre (IDRC), Publications Department, PO Box 8500, Ottawa, Ontario, Canada K1G 3H9

food security and nutrition

local food system; food security; United States;

The establishment of more localized food systems that achieve social-justice goals is an important strategy for developing sustainable urban food systems. New jersey, United States, is used as a case study to explore avenues for impacting various components of the food system in ways that (1) incorporate social justice issues into a more localized system; (2) alleviate constraints on access to adequate, nutritious food; (3) develop the economic capacity of residents to purchase food; (4) develop people to grow, process, and distribute this food; (5) maintain adequate land to produce a high percentage of the locale's food needs; (6) educate a population increasingly removed from food production to participate in, and respect, its generation; and (7) integrate environmental stewardship into this process. (Abstract adapted from original)

Hargesheimer, Ken. **Urban agriculture: gardening, market gardening, mini-farming, mini-ranching. Gardens / Mini-farms Network, Lubbock, TX, USA**

horticulture economic impact rural-urban linkages

home gardening; gardening techniques; urban livestock production; youth; United States

Focuses on the potential of various forms of urban agriculture, notably from the perspective of an opportunity for youth employment. Much of this paper is a mapping of production techniques. In addition, a condensed overview is given of important publications and suppliers' addresses, for the American market. (WB)

Harmon, Alison et al (1999). **The food system: building youth awareness through involvement. PennState, University Park PA USA, 142 p. Also on:**

www.cas.psu.edu/docs/CASPROF/

food security and nutrition

youth; food system; education; nutrition

This is a guidebook for parents and educators of youth in grades four through to twelve to introduce the concept of 'food system' and to provide background information, recommendations for developing curricula, specific project activities, and resources for gathering information. Many of the activities are also appropriate for adults. The authors suggest that "In the face of globalization, food system

educators should emphasize the need to strengthen local food systems.” Topics covered include: (i) food system inputs, (ii) food production, (iii) food transportation, (iv) distribution, (v) food access, (vi) food system outputs, (vi) local food system elements, (vii) sustainability. (JS)

Hassell, M. von (2000) The Impact of Community Gardening Initiatives in New York City on Children In: H. Hoffmann, K. Mathey (eds.). Urban Agriculture and Horticulture, the linkage with Urban Planning. 2000. International Symposium. Berlin July 2000. (on cd-rom).

land use planning community development food security and nutrition
United States, children; anthropology; housing; poverty

This paper describes research of the author on the Lower East Side of Manhattan since 1989. Her current work on community gardens has developed out of research about a community-based initiative to renovate abandoned buildings. Community gardens on the Lower East Side emerged in conjunction with these housing initiatives from the early 1970s on. They must be understood in the context of fluctuations in the urban economy and attendant shifts in labor markets, housing availability, and market-driven struggles over space. There are approximately 950 community gardens in New York City, predominantly on city-owned land in neighbourhoods marked by poverty and deteriorated housing conditions. Many are contested and targeted by the current city administration as sites for development. In this paper the role of and impact on children in community gardens and community-based initiatives on behalf of these gardens in New York City are analysed. The focus was on food production, art, and education projects involving children in community gardens on the Lower East Side of Manhattan and on children's participation in marches and other events on behalf of the gardens.

Hawkins, JN (1982). Shanghai: an exploratory report on food for the city. Food for the Cities Symposium of the Fourth Intercongress of the Pacific Science Association. Singapore. September 1981. WP-82-7/7. Honolulu: East West Resource Systems Institute.

food security and nutrition
policy; planning; food security; China

The author draws a profile of the city in terms of geography, demography, industry, agriculture and political planning. He notes that Shanghai is unique in that the surrounding 10 counties have been functionally organized to provide agricultural goods and services to the city. He then examines food policy and planning, setting out the five policy objectives for the 1980s and discussing the four main policy issues: rural-urban linkages (specialization vs self-sufficiency); socialist planning vs market mechanism; labour-intensive vs capital-intensive (mechanized) farming; and food pricing (urban consumers vs rural communes). Other topics covered include production and supply; markets (state and free) and prices; food expenditure; food rationing; human resource development; and research and policy issues. (HC, IDRC)

Hawkins, JN (1981). Shanghai's food system. Unpublished, 47 p.

food security and nutrition
policy; planning; food security; China

This short paper provides a start to understanding modern urban agriculture's organization in China, beginning with Premier Zhou en lai's 1963 policy declaration of objectives of city planning: (i) Cities will combine industrial and agricultural production, (ii) urban enterprises (socialistic) primary focus to be promotion of both industrial and agricultural production, (iii) policy and planning must include the city itself and the surrounding countryside, (iv) the goal of city planning is quality of life. The paper goes into detail on the organization of Shanghai's food system. (JS)

Hermann, Hans-Joachim (1999). Planning for survival spaces in the city: how urban agriculture could be promoted. In: Gate: Technology and Development no. 2 (April-June 1999) p. 10-13

economic impact services food security and nutrition
urban dwellers; rural-urban migration; urban poor; survival strategies

The majority of poor people live in urban areas. The received wisdom of development theory that the poor migrate to the city is being challenged in this article. Urban agriculture is an important element in survival strategies. However, the isolated promotion of urban agriculture as part of a solution of the problems of the urban poor will be of little help. (NB)

Hobbs, K. (2000) The role of community gardening and community development. In: H. Hoffmann, K. Mathey (eds.). Urban Agriculture and Horticulture, the linkage with Urban Planning. 2000. International Symposium. Berlin July 2000. (on cd-rom).

land use planning community development food security and nutrition
United States, children; anthropology; housing; poverty

The White House Task Force on Liveable Communities coordinates federal agencies with missions and resources that affect the liveability of American communities. The Task Force focuses on policies that promote sustainable growth, preserve open space, reduce congestion, improve schools, and make neighbourhoods safe. In pursuing these policies, the Task Force promotes coordinated Federal financial assistance, technical expertise, and information to assist collaborative efforts by communities at the state, local, and regional levels.

Hoffmann, H. and Mathey, K. (eds.) (2000) Urban Agriculture and Horticulture, the linkage with Urban Planning. 2000. International Symposium. Berlin July 2000.

land use planning food security and nutrition
United States; economic impact

All information of the International Symposium on Urban Agriculture and Horticulture on CD-Rom. The CD contains all the abstracts, posters and papers; programme of the event including the excursion and public relations network information.

Holl, Annegret (1998). Urbane Landwirtschaft in Havanna (Kuba) zwischen staatlicher Planung und 'moviemento popular'. 90 p.

food security and nutrition community development hydroponics
Havana; Cuba; home gardening; community gardens; food security; agricultural markets; commodity-oriented agriculture

Urban agriculture in Havana is considered by many authors as an essential contribution to Cuban food security, is very much instigated by the state and now covers over 6,000 hectares within the city boundaries. This paper reports on a fact-finding trip examining if urban agriculture in Havana is as successful as is often claimed. Doing a survey to that effect revealed itself difficult in the current political setting. The author highlights existing discrepancies from state regulations, more particularly with regard to the composition of crops produced: many citizens go for staple food production rather than vegetables. The paper concludes that the contribution of urban agriculture to food security is less than what is often reported and certainly not enough to feed Havana. Also, rural production should be much more directed towards the internal Cuban market. A refreshing look at things which are so often just taken for granted and therefore an important

Holm, M (1992). Survival strategies of migrants to Makambako - an intermediate town in Tanzania. In: The rural-urban interface in Africa: expansion and adaptation / Baker J. & Pedersen P.O. (eds). Seminar proceedings No. 27. Uppsala: Nordiska Afrikainstitutet (The Scandinavian Institute of African Studies). pp. 284-294

food security and nutrition rural-urban linkages
Tanzania; rural-urban migration; survival strategies; surveys

This chapter examines the phenomenon of rural-urban migration in Tanzania, in general, and Makambako, in particular. Makambako is a local transit and trade centre with limited infrastructure and opportunities for employment. Nevertheless, it draws large numbers of migrants, mainly from among the "better off" rural inhabitants. Researchers interviewed 283 migrant households using questionnaires and talked with key informants in Makambako and the surrounding villages, in order to shed light on their survival strategies. They noted that after taking up residence as urban dwellers, migrants tended to continue a rural lifestyle. The 280 economically active heads of households had a total of 342 occupations. More than half were farmers, one-third were in business and one-quarter worked as wage laborers. The 249 economically active wives of heads of households held a total of 295 occupations. More than four-fifths were farmers, 14.8% engaged in business and 12.3% were wage laborers. A large proportion of both male and female migrants practiced a combination farming and business, often selling their surplus production. Migrants tended to retain close ties with their area of origin and one-fifth received

food from their home village. The implications of migration for rural-urban equity are discussed. It was concluded that Makambako needed a better infrastructure, facilities to process local resources and a powerful local government with local participation if it were to function effectively as an intermediate centre for the rural hinterland. (HC, IDRC)

Husbands, Winston (1999). Food banks as antihunger organizations. In: For hunger-proof cities: sustainable urban food systems / Mustafa Koc, Rod MacRae, Luc JA Mougéot and Jennifer Welsh (eds), p. 103-109. ISBN 0_88936_882_1. CAD 35.00. International Development Research Center (IDRC), PO Box 8500, Ottawa, Ontario, Canada K1G 3H9
Supplier: International Development Research Centre (IDRC), Publications Department, PO Box 8500, Ottawa, Ontario, Canada K1G 3H9

food security and nutrition

food bank; access to food; food security; emergency food; community initiatives; Canada; Toronto

The Daily Bread Food Bank (DBFB) was established in Toronto in the early 1980s in an environment of high unemployment. It was established to provide emergency food assistance to people in need. The organization's founders claimed that DBFB would work to put itself out of business. Since that time, however, the demand for emergency food assistance has grown enormously, as a result mainly of lingering unemployment and cuts to social assistance. In other words, the food-security situation of low-income households in Toronto has worsened. In hindsight, DBFB's original focus on more or less traditional food banking undermined its intention to work to put it itself out of business. Traditional food banking, though important, is of limited value in securing reasonable alternatives to the current situation. Consequently, over the past 2 years, DBFB has been transforming itself to operate as an antihunger organization, without abandoning its commitment to providing emergency food assistance. Food banks need to organize their resources to focus considerably more on research, public education, public-policy advocacy and community mobilization. Food banks, but not traditional food banking, have a role to play in the struggle for food security. (Abstract adapted from original)

Institut Masyarakat (1983). Urban agriculture: food and employment for the urban poor. Penang: Institut Masyarakat

food security and nutrition

Malaysia; urban poor; food supply; vegetables; surveys; needs assessments; development policies

A concerted drive toward industrialization and urbanization has resulted in the rapid disappearance of market vegetable gardens in the city of Penang and its urban fringe. This document presents a proposal for a project to document the causes and effects of the growing crisis in urban agriculture in Penang, and seek solutions to it. The study will involve a needs assessment of the poor, an examination of the decline of urban agriculture, a thorough appraisal of the state's development strategy and a

case study of the Thean Teik Estate. The last is expected to provide concrete examples of how market forces and development pressures displace the powerless, i.e. farmers without legal title to their land, and the actual impact of current government policies. (HC, IDRC)

Instituto de Investigaciones Fundamentales en Agricultura Tropical (INIFAT) (1995).

Primer Encuentro Internacional sobre agricultura urbana y su impacto en la alimentación de la comunidad. 92 p. Instituto de Investigaciones Fundamentales en Agricultura Tropical (INIFAT)

food security and nutrition economic impact

home gardening; economic analysis; IPM; hydroponics; permaculture; crop rotation; biofertilisers

Contains a number of papers on various technical aspects of homegardens and communal gardens on Cuba. (WB)

International Food Policy Research Institute (IFPRI) (2000). The life cycle of malnutrition: eradicating malnutrition: income growth or nutrition programs? International Food Policy Research Institute. 70 p.

food security and nutrition health and environment

malnutrition; food policy; urbanisation; food security; gender; livestock; land tenure

This annual report of a CGIAR center is focussed on the role of good nutrition in economic growth and well-being. It finds that community-based nutrition programs bring multiple benefits. It begins with the statement that Malnutrition is not a disease that runs its course. It is a process, with consequences that may extend not only into later life, but also to future generations. Currently about one in three children under five in the developing world are malnourished, and one in two in eastern Africa. The potential gains of improved nutrition are identified as massive beginning with increased adult productivity, continuing through reduced health care costs, and promoting both social and civic well-being. Significantly, IFPRI finds that poverty and malnutrition are not congruent. More money may not lead to better food, care and health if good food is not available and accessible. Better nutrition is proven to raise incomes but higher income is not a guarantee of better nutrition and health. (JS)

International Food Policy Research Institute (IFPRI) (1996). Uncommon opportunities for achieving sustainable food and nutrition security: an agenda for science and public policy. A 2020 Vision for Food, Agriculture, and the Environment Brief no. 37. 2 p. International Food Policy Research Institute (IFPRI), 1200 Seventeenth Street, N.W. Washington DC 20036-3006, USA

food security and nutrition R&D methodology

food security; government policies; political aspects; sustainable development

An invitation to the World Food Summit convened by FAO in Rome in November 1996 'to harness science and technology for the transformation of agriculture into a

primary instrument of a global Evergreen Revolution'. A 10-point agenda is proposed as a basic scientific and public policy framework for achieving sustainable food and nutrition security at both the national and international levels. A very condensed and important policy brief. (WB)

Islam N (1982). Food consumption, expenditure pattern of urban households in Bangladesh. Food for the Cities Symposium of the Fourth Intercongress of the Pacific Science Association. Singapore. September 1981. WP-82-7/1. Honolulu: East West Resource Systems Institute

food security and nutrition

food consumption; household economy; Bangladesh

This paper examines population growth and food availability in Bangladesh; the income structure of urban and rural households; the pattern of food consumption by income group (grain vs other food); the pattern of food consumption by income and food item (rice, wheat, pulses, milk, oil, meat, fish, potato, sugar and eggs); and the percentage of income expended on food by area (rural or urban) and by class. Between 1973-74 and 1979-80, the country had a grain deficit approximately equal to the percentage of people living in urban areas, i.e. in the 10-15% range. To overcome the chronic food deficit, not only of grain but also of other foods, the government has piloted a few dairy farms, agricultural estates, fish ponds and backyard poultry farms in and around the large cities. It has also approved a "greenbelt" scheme to encourage food production on the urban periphery. It is recommended that the government go further than this by extending better technology and inputs to traditional small-scale farmers, especially those on the urban fringe. (HC, IDRC)

Jacobi, Petra (1998). Food production as a survival strategy for urban households: state of knowledge and state of research in Tanzania. 10 p. Urban Vegetable Promotion Project (UVPP), PO Box 31311, Dar es Salaam, Tanzania

economic impact food security and nutrition rural-urban linkages

horticulture; Tanzania; urban livelihoods; food security

Provides an overview of urban agriculture in Dar es Salaam with its estimated 3 million inhabitants and its growth rate of 8%. In such a setting, urban food production has revealed itself to be very important as a survival strategy for the urban poor. The paper provides interesting figures and statistics out of which emerges a varied picture as to who is practising urban agriculture, with what purpose, scale of production, and more. Various production systems are presented and typified: crop based systems, periurban crop production, open space production, homegarden production, and livestock based systems. (WB)

Jacobi, Petra ; Amend, Jörg; Kiango, Suzan (1999). Farming in the city: Vegetable production in Tanzania. In: Gate: Technology and Development no. 2 (April-June

1999) p. 14-20

horticulture food security and nutrition
; Tanzania; vegetable production

Dar es Salaam is a good example of the potential of urban farming. Besides cattle raising, vegetable production is the most prominent activity, with a clear focus on leafy vegetables. The reasons are: a huge demand, it can be grown throughout the year, there are pest resistant crops, investments are reasonable, certain crops can be picked continuously and competition from outside the town is minimal. The authors conclude that urban farming creates jobs and income, reduces household spending, maintains green space and contributes to reusing organic waste. More and more stakeholders acknowledge the importance of urban agriculture in Dar es Salaam. An extended version of the article can be found in 'Growing Cities, Growing Food: Urban Agriculture on the Policy Agenda' published by DSE. (NB)

Jacobi, Petra; Amend, Jörg; Kiango, Suzan (2000). Urban agriculture in Dar es Salaam: providing for an indispensable part of the diet. In: Growing cities, growing food: urban agriculture on the policy agenda, p. 257-283. DSE, GTZ, CTA, SIDA
horticulture food security and nutrition
vegetable production; dairy farming; community gardens; food security; land use systems; health; ecology; economic impact; gender; urban policies; reuse of waste; poverty; Tanzania

Homegarden production, Livestock production in homesteads, community gardens, open space production, and periurban production in Dar es Salaam are discussed. Perishables (milk, leafy vegetables) are produced in intraurban areas the periurban area supplies a mix of perishables and staples (maize, rice a.o.). More than 90% of leafy vegetables come from open spaces and home gardens while 60% of the milk is produced in urban and periurban areas. Urban farming contributes to the maintenance of green open spaces, improving the micro climate and preventing illegal dumpsites. The different production systems contribute considerably to family income. There is a strong link between the socio-economic status of a family, the objective of the production and the involvement of women. "Female agriculture" contributes more to the household. Urban agriculture is affected by, access to resources (water), insecure land-use titles, the unsatisfied demand for fresh food especially green leafy vegetables. Level of organisation is low and urban retail poses problems. Urban agriculture has received attention on various policy levels. Its recognition is reflected in several laws and regulations. It is expected to keep its importance especially for the urban poor. (NB)

Jacobi, Petra., Drescher, Axel W. and Amend, Jörg (2000) Urban Food Security; urban agriculture response to crisis. In: *Urban Agriculture Magazine*, no 1, Maiden Issue, July 2000, RUAF, Leusden The Netherlands.
food security and nutrition economic impact
crisis; poverty alleviation

Why people get involved in urban agriculture is the basic question of this article,

which is based on information extracted from 20 city case studies on urban agriculture world-wide and additionally draws from experiences of the Urban Vegetable Promotion Project in Dar Es Salaam (Tanzania). It is argued that local authorities have to take their responsibilities in securing urban food security and to create an impact on urban poverty alleviation.

Jaenicke, Hannah, Jonathan Muriuki and Caleb Basweti. (2000) Seed and Seedling Supply for Urban and Periurban Agroforestry. ICRAF (International Centre for Research in Agroforestry) Paper presented at SIUPA stakeholder meeting and strategic workshop, Sub-Saharan region, 1-4 november 2000

food security and nutrition urban forestry
food production; agroforestry

In the context of a projected high increase in the urban and periurban population in the next decades, agroforestry technologies can help to increase food and fodder production, and minimize risks associated with small-scale agriculture. Fruit, medicine, fodder and timber are the primary tree products from agroforestry that can be produced on small plots with relatively extensive management. However, to date, a satisfactory seed and seedling distribution system for the urban and peri-urban sector does not exist. In the past year, we have carried out several surveys amongst urban and peri-urban nursery operators, and seed suppliers in Kenya. Although germplasm is moving between the rural (seed) and urban areas (seedlings), there is no system that allows tracing the origin and destination of this material. ICRAF and its collaborators are trying to develop a sustainable system for agroforestry seed and seedling production in the urban and peri-urban areas.

Johnson, Vicky and Jacqui Webster (2000) Reaching the Parts... Community Mapping: Working Together to Tackle Social Exclusion and Food Poverty. London: Sustain: The alliance for better food and farming / Oxfam's UK Poverty Programme

food security and nutrition R&D methodology
community development; participatory methods; United Kingdom; food; poverty; nutrition

Community mapping uses participatory appraisal methods to enable local people to analyse their food economies and work with others to develop sustainable solutions to the problems they face in eating a healthy diet. This full colour report illustrates the process and findings of the pilot project in Brighton, Coventry and Leicester. It concludes with a range of recommendations to help tackle food poverty and increase people's control over their communities.

**Jolly, Desmond (1999). Urban agriculture as food-access policy. In: For hunger-proof cities: sustainable urban food systems / Mustafa Koc, Rod MacRae, Luc JA Mougeot and Jennifer Welsh (eds), p. 195-199. ISBN 0_88936_882_1. CAD 35.00. International Development Research Center (IDRC), PO Box 8500, Ottawa, Ontario, Canada K1G 3H9
Supplier: International Development Research Centre (IDRC), Publications**

Department, PO Box 8500, Ottawa, Ontario, Canada K1G 3H9

food security and nutrition R&D methodology

access to food; rural-urban linkages

Hunger malnutrition, and suboptimal access to food have resulted from a number of political, economic and demographic forces. Among these are urbanization, un(der)employment, food-marketing systems and welfare politics. Urban agriculture can enhance access to food and thus enhance the welfare of low-income urban residents. However, the net outcome may be negative if urban agriculture is seen as a substitute for, rather than an addition to food and agricultural policies designed to improve rural conditions and provide affordable access to food for the all urban residents. Hence, the benefits of urban agriculture may depend integrally on an overall context of food and agricultural policies designed to meet the food needs of the entire population. (Abstract adapted from original)

Kaldjian, Paul (1997). Istanbul: opportunities in urban agriculture. In: Arid Lands Newsletter no. 42 (fall/winter 1997). 10 p.

city ecology food security and nutrition

food systems; Istanbul; Turkey; food production; resource management; food security

Provides an overview of the Istanbul food system resource use and agricultural production. The paper makes an attempt to identify the potential role of urban agriculture within the urban food system with regard to resource use, land tenure, social relations and political ecology. (NB)

Kerry, Sylvester; Fidalgo, Lourdes et al (1998). Workshop for the compilation of urban food security and nutrition profiles. FAO, Rome & Ministry of Planning, Maputo. 39 p.

food security and nutrition

nutrition; food security; Africa; gender; youth; food system; Mozambique

This workshop report presents inputs from several Southern African cities. It emphasizes the need to understand the food system before intervening. It defines the role of women and youth in food security. Its prime concern is how to collect data. (JS)

Khoury-Dagher, Nadia (1985). Food and energy in Cairo: provisioning the poor. 64 p. The Food Nexus Programme, The United Nations University, Toho Seimei Building, 15-1, Shibuya 2-chome, Shibuya- Ku, Tokyo 150, Japan

food security and nutrition

Egypt; food distribution; food availability; food consumption; energy consumption

Analyses Cairo citizens' access to food and energy. The former was very much on people's minds, the latter much less so, at the time when this report was written, in the midst of an economic crisis. Data used in the study were collected during a

survey in one of the lower-income areas of Cairo. Food distribution and buying behaviour of people is examined in detail and this yields interesting information. (WB)

Khouri-Dagher, Nadia (1986). Food and energy in Cairo: provisioning the poor.

UNU, Paris , 62 p

food security and nutrition

food system; household farming; urbanisation; energy; livestock; urban poor; poverty

This report begins with the observation that access to food is one of the major problems of daily life in Cairo. Urban livestock rearing is presented as a method of concrete access to food. (JS)

Kleer, Jerzy (1987). Small-scale agricultural production in urban areas in Poland.

In: Food and Nutrition Bulletin vol. 9 no. 2 (1987) p. 24-28. University of Warsaw

food security and nutrition horticulture

home gardening; allotment gardens; agricultural production; Poland

Contains a historic overview of small-scale food production in Polish towns and cities. One interesting figure: in the mid-1980s, total output from allotment gardens accounted for over 6% of total agricultural production in Poland. (WB)

Kleer, Jerzy; Wos, Agustyn (eds) (1988). Small-scale food production in Polish urban agglomerations. UNU Paris, 63 p.

food security and nutrition

urbanisation; markets; leisure; malnutrition; livestock; horticulture; allotment gardens; ecology

This small volume tells a wide and deep history of small-scale urban farming in Poland based on research by a team of twelve professionals. The study includes the methods of production, the producers, the nutritional and health benefits, the ecological consequences and more. The tables spread out a complete national picture. This study provides a foundation for future national surveys in Europe and the rest of the world. (JS)

Klein, Petra; Steen, Anniek (1999). Urban agriculture: a review of the literature on the sociological and nutritional dimensions of urban agriculture in East Africa. 55 p. ETC International, PO Box 64, 3830 AB Leusden, The Netherlands

food security and nutrition community development health and environment

Kenya; Uganda; Tanzania; food security; nutrition; social aspects; urban livelihoods; health hazards; home gardening

In the framework of a literature study, this paper reviews a number of publications looking at sociological and nutritional aspects of urban agriculture, mainly in Nairobi, Kampala and Dar es Salaam. (WB)

Knight, Jonathan (1999). The nutrition garden project. In: Urban Agriculture Notes <http://www.cityfarmer.org/albie.html>. 6 p.

Supplier: City Farmer, Canada's Office of Urban Agriculture

food security and nutrition

home gardening; research methodology; vegetable production; nutrition; economic aspects; United States;

Describes a research project in which a student started to grow all his own food in a garden of 4,500 square feet. The project describes production maximisation, labour requirements, variety trials, establishing compost needs and the diet obtained from the garden. (NB)

Koc, Mustafa; MacRae, Rod; Mougeot, Luc JA; Welsh, Jennifer (eds) (1999). For hunger-proof cities: sustainable urban food systems. 240 p. ISBN 0_88936_882_1. CAD 35.00. International Development Research Center (IDRC), PO Box 8500, Ottawa, Ontario, Canada K1G 3H9

Supplier: International Development Research Centre (IDRC), Publications Department, PO Box 8500, Ottawa, Ontario, Canada K1G 3H9

food security and nutrition services

food supply; nutrition policy; sustainable agriculture; urban health

Most contributions to the book were presented at the International Conference on Sustainable Urban Food Systems in May 1998. The book examines food security from an urban perspective. The concept of urban food security, local food systems and how to improve the availability and accessibility of food for city dwellers are discussed. The book explores the role urban and community agriculture play, how this can be improved and its linkages with rural populations. Furthermore ecological and health concerns and a gender perspective on urban food production are examined. The politics of food and food policy and urban agriculture as food access policy are discussed. Finally strategies toward food democracy and the emergence of innovative food systems are analysed. The discussions are based on case studies from around the world including Canada, United Kingdom, Poland, Turkey, Cuba, Zambia and Zimbabwe. The book includes contributions from farmers, professors, activists, business leaders, policymakers and community organizers. (NB)

Koc, Mustafa; Koc, Hulya (1999). From staple store to supermarket: the case of TANSAS in Izmir, Turkey. In: For hunger-proof cities: sustainable urban food systems / Mustafa Koc, Rod MacRae, Luc JA Mougeot and Jennifer Welsh (eds), p. 115-121. ISBN 0_88936_882_1. CAD 35.00.

Supplier: International Development Research Centre (IDRC), Publications

Department, PO Box 8500, Ottawa, Ontario, Canada K1G 3H9

services food security and nutrition

access to food; food distribution; consumption patterns; Turkey

This paper examines a successful staple-store project operated by the municipal government of Izmir, Turkey. Whereas its immediate success offered relatively affordable food to urban poor and middle class consumers and helped to curb inflationary tendencies to a certain extent, the project later extended beyond its original goals and turned into one of the two biggest supermarket chains in Turkey. The paper suggests that staple stores can be effective tools for food access if they can be kept as small operations, and the paper offers some insights on the impacts of supermarketing on food access, pricing, and consumption. Yet, there are no easy solutions that improve access to food. Although TANSAS protected consumers from high inflation and speculation in the 1970s, it inadvertently played a role in introducing and spreading supermarket chains in Turkey, altering the food-consumption and food-distribution patterns irreversibly. The paper also warns of the impacts of global economic pressures and neo-liberal restructuring schemes on the future of public enterprise and public policy at the local level. (NB - abstract adapted from original)

Kreinecker, Petra (2000). La Paz: urban agriculture in harsh ecological conditions.

In: Growing cities, growing food: urban agriculture on the policy agenda, p.

391-411. DSE, GTZ, CTA, SIDA

gender food security

food security; food policy; land use systems; ecology; economic impact; gender; urban policies; reuse of waste; poverty; land tenure; migration; nutrition; microclimate; Bolivia; appropriate technology

The climate in La Paz enhances the development of adapted techniques for urban agriculture. Officials tend to not see urban agriculture though in fact it is everywhere. Urban agriculture is a survival strategy for socially marginalized people as urban agriculture fits well in their economy based on social relations. Several urban farming systems can be found of which private home gardens and communal gardens are more important. Land titles are unclear and little capital is used. Farmers are organised in informal and formal organisations and networks. Women play a central role in farming and urban farming contributes to women's independence. Urban agriculture contributes little to food energy supply but increases the diversity of food consumption. Many factors hamper the development of urban agriculture among others the ecological conditions, cultural heterogeneity and land tenure situation. A future strategy needs to emphasise existing structures and socially accepted Andean varieties to improve the situation of marginalized people. (NB)

Lam, TT (1982). Food for the city: the role of the informal sector. Food for the Cities Symposium of the Fourth Intercongress of the Pacific Science Association. Singapore. September 1981. WP-82-7/4. Honolulu: East West

Resource Systems Institute

food security and nutrition

Malaysia; street food; food supply; informal sector

In Third World cities, an important part of the food distribution network is dominated by the informal sector. This study looks at the food consumption pattern in Peninsular Malaysia by income and ethnic group; food consumption in and away from home; changes in diet; the various food retailing outlets; the role of hawkers and vendors; and the future of informal retailing. It is noted that hawkers and vendors usually sell cooked food or food that can be prepared very quickly for the waiting consumer, such as soup noodles, noodles fried with cockles, salad, satay and curried rice. They can do so cheaply because of their low overhead. Moreover, both the poor and the wealthy traditionally go to hawkers for vegetables, fruit, fish, meat and poultry. It is concluded that the informal sector will probably continue to thrive in Malaysia: it will continue to be patronized by the poor out of necessity and the rich by choice, as a complement to other options in the urban food retailing system. (HC, IDRC)

**Lang, Tim (1997). Food policy for the 21st century: can it both be radical and reasonable? In: For hunger-proof cities: sustainable urban food systems / Mustafa Koc, Rod MacRae, Luc JA Mougeot and Jennifer Welsh (eds), p. 216-224. 31 p. ISBN 0_88936_882_1. CAD 35.00. Thames Valley University (TVU), 32-38 Uxbridge Road, Ealing, London W5 2BS, United Kingdom
Supplier: Ottawa: International Development Research Centre**

food security and nutrition

food policy; environment; health; consumption patterns; globalisation

Argues that the food system can only be understood as a dynamic system. The paper outlines a number of key features, including drivers, of the food system. After decades of dominance of production interests in food policy, a period of reaction is now under way by arguments and groups committed to protecting the environment, public health, consumers, and the socially disadvantaged. Changes in production and distribution, even changes in cooking, have altered the nature of food. This has both alarmed and activated consumer and public interest groups. The paper characterises this struggle as one of forces seeking to control and bend nature and the labour process versus those seeking to democratise food. The outcome is uncertain. Even powerful corporate interests face uncertain times. Issues such as climate change, population pressure, consumerism, internal conflicts of market forces and inequalities driven by globalisation, and the restructuring of welfare all threaten the controlling tendencies. The paper concludes with a call to rethink the role of the state. Given the relative lack of power individual consumers have only the state to exert power on their behalf. The challenges ahead are practical, intellectual, political, and cultural. (Abstract adapted from original)

Lebre La Rovere, Emilio (1985). Food and energy in Rio de Janeiro: provisioning the poor. UNU Paris. 59 p.

city ecology food security and nutrition

market gardens; marketing; farmers' associations; smallholder food production

This report looks at experiments in a large city in the face of energy and food shortages. It detail the cooperation of an electrical utility and small-scale periurban farmers and the formation of a marketing cooperative by small-scale urban farmers. (JS)

Leckie, Stephen (1999) How meat-centred eating patterns affect food security and the environment. In: For hunger-proof cities: sustainable urban food systems / Mustafa Koc, Rod MacRae, Luc JA Mougeot and Jennifer Welsh (eds), p. 145-149. ISBN 0_88936_882_1. CAD 35.00. International Development Research Center (IDRC), PO Box 8500, Ottawa, Ontario, Canada K1G 3H9
Supplier: International Development Research Centre (IDRC), Publications Department, PO Box 8500, Ottawa, Ontario, Canada K1G 3H9

food security and nutrition

food security; consumption patterns; land use systems; ecology; meat production

Scaling back on resource-intensive meat production may be the best way to ensure food security for a growing population into the next century. Essentially, the world is experiencing an over-population of farm animals. Since 1950 global meat production has jumped from 18 kg/person to more than 35 kg/person. Grain yields have also increased, but much of the gain has gone to fattening animals that are very inefficient at converting grain to meat. Per capita land use in countries with plant-based agricultural economies stands at only a fraction of the levels seen in countries with high meat production rates. North America still uses seven times more land per capita than many countries in Asia. Less animals to feed might lead to a rebuilding of the world grain reserves. Furthermore, a reduction in land use by cutting meat production would be an effective way to ensure that wilderness areas are maintained and even expanded. (Abstract adapted from original)

Lee-Smith, Diana et al (1987). Urban food production and the cooking fuel situation in urban Kenya. National Report: Results of a 1985 National Survey. Nairobi: Mazingira Institute. 304 p.

food security and nutrition

Kenya; fuelwood; poverty; livestock

This is a true pioneering study. It is one of the first surveys of urban food production (conducted in 1984-1985), and the first in a wave to come from Eastern Africa in the past decade and a half. It also marks the beginning of the involvement of Canada's IDRC in funding research on urban agriculture. The study analyses the patterns of food and fuel production and subsistence consumption by urban households in Kenya, based on a random sample of urban households in six representative towns in Kenya (Isiolo, Kakamega, Kisumu, Kitui, Mombasa, and Nairobi). The high proportion it found of households engaged in subsistence food production (crops and livestock) as well as fuel production and gathering is consistent with the proportions

of urban families with incomes below the level of affording to buy food to meet domestic needs. Detailed reports on each of the six towns surveyed can be found under separate cover, as annexes to the main report. (JN, partly adapting from authors)

Lee-Smith, Diana; Memon, Pyar Ali (1993). Urban agriculture in Kenya. Canadian Journal of African Studies 27:1 (1993) pp. 25-42. Papers, 18 pp.

genderfood security and nutrition R&D methodology

Africa, Kenya, urban theory, urban policies, urban development, women's role, subsistence production, urban poor, food security

This article analyzes the characteristics of urban agriculture in Kenya within a wider conceptual and socioeconomic context and is based on a survey by the Mazingira Institute (Lee-Smith et al., 1987). This article emphasizes the significance of incorporating a food component, namely crops and livestock, into urban theory, and raises questions of policy for sustainable urban development. The authors claim that the situation in urban areas with respect to urban farming must be understood as part of a wider food crisis, exacerbated by the fact that women's work and subsistence production are largely ignored, and the situation therefore remains misunderstood. The article notes women's roles and participation in urban agriculture. Extension services need to be made more available in urban areas, and specifically, they need to be directed to poor urban women. The article concludes by stating that the fact that urban farmers are mainly, but not exclusively, women producing for their own families' consumption, is no reason to discount the conceptual significance of these activities or the value of their primary economic production. (AH)

Lee-Smith, Diana; Lamba, Davinder (1998). Urban food, fuel and shelter. Workshop on Cities feeding people: lessons learned from projects in African cities. IDRC. Nairobi. 21-25 June 1998.

food security and nutrition

woodfuel; urban housing; food security

During 1984-1987, the Mazingira Institute carried out the first national survey of urban agriculture as part of an International Development Research Centre (IDRC)-funded project entitled Urban Food, Fuel and Shelter (82-0114). The study revealed that 29% of the households surveyed grew part of their food on urban land. The value of food crops produced in one season in Kenyan towns was estimated at US \$4 million and the total value of livestock at US \$17 million. Most of the crops and livestock were produced for subsistence and not sale, although milk and eggs were both consumed and sold. The majority of urban farmers were women. Local authorities were generally hostile to urban farming, except on private land. The researchers identified the following key issues in urban agriculture: land for crops, crop extension, space for livestock, veterinary services, woodfuel, organization, women farmers, marketing and indigenous vegetables.

Although the project established urban agriculture as a significant economic activity,

it was not until the early 1990s that policy and refereed scholarly articles on the research were accepted for publication. And, despite persistent effort on the part of the authors, the impact on urban agriculture policy and practice in Kenya has yet to be felt. This paper discusses the project in terms of institutional capacity building, the generation of gender insights and, especially, the utilization of results by non-researchers. Some of the difficulty related to the last was attributed to the fact that there were no urban farmers' associations to work with. Some 56 references are contained in the bibliography. (HC, IDRC)

Levenston, Michael (1999). Chickens in the soup. Urban Agriculture Notes. In:
<http://www.cityfarmer.org/chicken84.html>. 3 p. City Farmer, Canada's Office of Urban Agriculture

Supplier: City Farmer, Canada's Office of Urban Agriculture

food security and nutrition land use planning
livestock; chickens; urban policies; United States

This article from the very first issue of the City farmer Newspaper describes the battle of urban farmers, especially chicken raisers, with city by-laws in North America. Interesting from a historical point of view. (NB)

Leybourne, Shona L; Grant, Miriam (1999). Bottlenecks in the Informal Food-transportation Network of Harare, Zimbabwe. In: For hunger-proof cities: sustainable urban food systems / Mustafa Koc, Rod MacRae, Luc JA Mougeot and Jennifer Welsh (eds), p. 110-114. ISBN 0_88936_882_1. CAD 35.00.
Supplier: International Development Research Centre (IDRC), Publications Department, PO Box 8500, Ottawa, Ontario, Canada K1G 3H9

services food security and nutrition
food distribution; food security; urban policies; Zimbabwe;

In the context of the bottlenecks that pervade the internal informal food distribution flows of Harare, urban dwellers who work in the informal food-distribution network and/or live in the poorer areas of the city are facing food insecurity. Gender, class, and race are axes of perceptual difference between policy writers, policy enforcers and the recipients of these policies, and these axes affect how individual transporters, food retailers, and consumers choose to manoeuvre in the grid of authority's domination. It is suggested that the state should recognize the contribution that the informal food distribution network is making to the food security of the city. A strategically oriented dialogue that seeks to ensure the security of these people's basic food requirements would protect the local structures that have been created by the people for the people. Such discussion might include the formalization, hence protection, of the actors within the informal food-distribution system thus cushioning a large proportion of the urban poor from immediate food insecurity. (Abstract adapted from original)

Losada, Hermenegildo (et al.) (1998). Urban agriculture in the metropolitan zone of Mexico city: changes over time in urban, suburban and periurban areas. In: Environment and Urbanization vol. 10 (1998) no.2 p. 37-54

horticulture food security and nutrition

urban livestock; ornamental plants; urban farming systems; environment;
environmental pollution; urban planning; land tenure; cultural aspects

The paper describes the scale and nature of agricultural production in Mexico City, according to the different zones defined and how these have adapted to the changing demands from urban populations for food, wood and recreation. Evidence is provided that agriculture has successfully adapted its products and production methods to the changes, which include a deteriorating environment and lack of government support. The producers developed ways to use degraded land and use large volumes of waste in the production process. It is argued that appropriate support for the diverse urban agricultural production comes with many ecological advantages and creates new jobs. However this also requires important changes in the ways city authorities manage urban expansion. (NB - Abstract adapted from summary)

Lourenco-Lindell, Ilda (1995). The informal food economy in a peripheral urban district: the case of Bandim District, Bissau. In: Habitat International vol. 19 (1995) no. 2 p. 195-208. Stockholm University, Sweden

food security and nutrition

food supply; Guinea Bissau; urban survival strategies

This paper addresses the role of urban food supply for urban food security and attempts to uncover the diversity and complexity of the urban food system, through an integrated study of food production, distribution and consumption of two different foodstuffs. It focuses on informal food supply in a peripheral district of Bissau, Guinea-Bissau. The study reveals that different foodstuffs contribute in different ways and have distinct production, marketing and consumption structures. The highly diversified nature of urban food supply is illustrated by the variety of scales of food production and marketing activities. Poor households integrate cash and subsistence elements in their food consumption, as well as the formal and informal sector in order to improve their access to food. But within the informal food sector, small-scale retailers and low status markets seem to play a crucial role in making food available to the poor at prices they can afford. The investigation takes the form of a case-study through a qualitative approach that has potential for revealing the experience of food insecurity and the coping strategies of the urban poor in an unplanned peripheral settlement. (Original abstract)

MacRae, Rod (1999). Policy failure in the Canadian food system. In: For hunger-proof cities: sustainable urban food systems / Mustafa Koc, Rod MacRae, Luc JA Mougeot and Jennifer Welsh (eds), p. 182-194. ISBN 0_88936_882_1. CAD 35.00. International Development Research Center (IDRC), PO Box 8500, Ottawa, Ontario, Canada K1G 3H9

Supplier: International Development Research Centre (IDRC), Publications Department, PO Box 8500, Ottawa, Ontario, Canada K1G 3H9

food security and nutrition

food policy; nutrition policy; health; environment; globalisation; food security

Canada has failed to create a national food policy. Instead Canada has an agricultural policy with significant contradictions and a very weak nutrition policy. A coherent food policy should have the optimal nourishment of the population as its highest purpose, make agricultural reduction and distribution servants of that purpose, and ensure the long-term financial and environmental sustainability of the food system. The absence of a comprehensive food policy has resulted in health and environmental sustainability problems that the current policy apparatus is inadequately equipped to address. A national food policy should be designed with an emphasis on integrated responsibilities and activities, transdisciplinary development and implementation, food-systems thinking and a focus on macropolicy. New policies and policy-making structures are proposed, based on the emerging theory of ecological organizational design. An outline for a new Department of Food and Food Security, with health and sustainability as its central thrust, is presented. (Abstract adapted from original)

Madaleno, Isabel Maria. (2001) Urban Agriculture Supportive Policies: two distant cities. In: *Urban Agriculture Magazine*, no 4, Urban Planning, July 2001, RUAF, Leusden The Netherlands.

land use planning

community development

food security and nutrition

Portugal; Brazil

Agriculture is an old urban function. Doomed and cursed as it was after the first Industrial Revolution, it never ceased to exist in developing countries and is now once again welcome in most developed countries as well. Poor Brazilian communities see urban agriculture as an alternative survival strategy, because it produces food and improves household's nutrition, but also generates income and jobs, while additionally providing self-respect and hope for a better future. In Portugal, city gardening is small-scale, aimed at giving opportunities for child and adult education, providing ways to produce and consume healthy food, and to enhance contact with land and living things.

Madaleno, Isabel Maria (2001) Cities of the Future: Urban Agriculture in the Third Millenium. Instituto de Investigacao Cientifica Tropical, Lisbon. In: *Food, Nutrition and Agriculture*, no. 29, 2001, pp. 14-21. Supplier: Food and Nutrition Division, FAO, Viale delle Terme di Caracalla, 00100 Rome, Italy

food security and nutrition

urban areas; periurban areas; urban agriculture; food production; nutrition; food security; green spaces; Europe (Eastern); Europe (Western) ; America (Northern); health; environmental aspects; Africa (Eastern); Africa (Western); Africa (Southern); America (Southern)

Urban agriculture, defined as food and non-food production dispersed throughout urban and peri-urban areas, can play an important role in the cities of the future. A

main benefit of these activities could be an improvement in the nutritional status and food security of urban people. Urban agriculture may contribute to food self-reliance, jobs and effective survival strategies. It provides an opportunity for purposeful recreation and educates young people about health and environmental issues. Producing food in a city environment helps to develop community bonds because it encourages cooperation and a sense of sharing. Children, young people and adults have opportunities to increase their understanding of, and respect for, the tasks and challenges faced by farmers and to be directly involved with the production of healthy food. Urban agriculture constitutes a positive way to improve the urban environment, adding a further dimension to the wide-ranging benefits urban people derive from public open spaces. In this article, the evolution of cities and use of green space in Europe and North America are explained. Recent experiences in urban agriculture in a number of countries in Africa, Europe and Latin America are described. It is argued that urban agriculture

can foster local solutions to social, environmental, political and economic problems in a diversity of settings.

Madaleno, Isabel Maria (2001) Urban Agriculture Supportives Policies in Latin America. Tropical Institute, Lisbon, In: Urban Agriculture Notes, also available from <http://cityfarmer.org/LatAmerPromotes.html#Lapromotes>

food security and nutrition land use planning

urban agriculture; nutrition; land use, America (Central), America (Southern)

Agriculture is an old urban function, doomed after the first Industrial Revolution. However, in developing countries it never ceased to exist and nowadays it is welcomed in most developed countries too, for urbanites feel more and more compelled to regain the lost bond with nature. Regarding poor Latin American communities, urban agriculture is widely seen as an alternative survival strategy, because while it produces food and improves household's nutrition, the activity can also generate income, jobs, additionally providing self-respect and hope for a better future. The table presents several practical and current experiences of urban and peri-urban agriculture integration into city development and urban land use in Latin America, due to friendly public policies, systematizing and resuming what is available in recent literature, together with the author's own research results.

Madaleno, Isabel Maria (2001) Cities of the Future: Urban Agriculture in the Third Millenium, Instituto de Investigacao Cientifica Tropical, Lisbon. In: Food, Nutrition and Agriculture, no. 29, 2001, pp. 14-21. Supplier: Food and Nutrition Division, FAO, Viale delle Terme di Caracalla, 00100 Rome, Italy

food security and nutrition

urban areas; periurban area; urban agriculture; food production; nutrition; food security; green spaces; Europe (Western); health; environmental aspects, Africa (Central), Africa (Eastern), Africa (Northern), Africa (Southern), Africa (Western), America (Northern)

Urban agriculture, defined as food and non-food production dispersed throughout urban and peri-urban areas, can play an important role in the cities of the future. A main benefit of these activities could be an improvement in the nutritional status and food security of urban people. Urban agriculture may contribute to food self-reliance, jobs and

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can foster local solutions to social, environmental, political and economic problems in a diversity of settings.

Maidar, T (1999). Combating hunger in Mongolia using urban agriculture. Urban Agriculture Notes. On: <http://www.cityfarmer.org/mongolia.html>. 3 p. Poverty Alleviation Study Centre (PASC), Central POB 275, Ulaanbaatar 13, Mongolia
Supplier: City Farmer, Canada's Office of Urban Agriculture
food security and nutrition
Mongolia; food security

Project description of the activities of a Mongolian NGO in the field of urban agriculture promotion aimed at increasing food security of poor families. (NB)

Mapetla, M; Phororo H; Prasad G (1994). Urbanization, gender and environment: the role of wild vegetables. Paper presented at the International Seminar on Gender, Urbanization and Environment. Nairobi, Kenya. 13-16 June 1994. Proceedings. Nairobi, Kenya: Mazingira Institute
Supplier: Mazingira Institute, PO Box 14550, Nairobi, Kenya
gender food security and nutrition
Africa, Lesotho, resource use, wild vegetables, nutrition, income generation, gender issues, cultural aspects, urbanisation, women's role, social networks, rural-urban linkages

Although many people in Lesotho move to towns in search of better job opportunities, they miss out on access to natural wild food resources. It is argued in this paper that such resources can be adapted to the urban environment and wild vegetables could contribute to nutrition and cash income of urban dwellers. Gathering, preparing and eating are related to gender and culture. Earlier studies

have shown that collecting and preparing wild vegetables is a strategy for rural women to provide a balanced diet for their families. Urbanization in Lesotho has affected women's access to natural resources like edible wild plants. Settlements now occupy former agricultural land and wild foods become scarce in peri urban areas due to over harvesting. Urban women have to spend much more time to find enough wild plants for a meal. The study reveals that only a few people collect wild plants, and children are no longer taught about edible plants due, in part, to schools highlighting westernized curriculums which do not foster the value of indigenous plants. For many people in towns, wild foods have low status and they would rather buy cultivated vegetables from the market. Towns have created markets but only rarely are wild vegetables sold. Women from the countryside sell the wild vegetables through informal networks in town. A promotion strategy for wild vegetable focusing on knowledge, attitude, value and nutrition is suggested. Outward rather than inward growth of urban areas is also recommended by the authors. It is argued that gardens within urban housing sites in Lesotho are agriculturally more productive than fields in rural areas, and agricultural production does not decrease when fields are converted into housing sites with gardens in the present urban expansion pattern. (AH)

Marsh, R (1994). Nutritional benefits from home gardening. In: ILEIA Newsletter vol. 10 no. 4 (December 1994) p. 14-15. Asian Vegetable Research and Development Center (AVRDC), PO Box 205, Taipei 10099, Taiwan; IICA, PO Box 55-2200, San Jose, Costa Rica
Supplier: Information Centre for Low-External-Input and Sustainable Agriculture (ILEIA), PO Box 64, 3830 AB Leusden, The Netherlands
horticulture food security and nutrition
Bangladesh; community health; home gardening; nutrition; nutritive value; urban communities; urban development; urban environment; urban population; vegetables

Seasonal hunger and malnutrition are ever-present conditions for the landless or near landless rural poor and urban slum dwellers. These groups are particularly vulnerable because of low and irregular cash incomes. In Bangladesh, as in other tropical countries, many such households use the small area around their house to grow food to supplement field crops, purchased food and generate income for households with access to markets. The pilot homegarden project of Helen Keller International (HKI) reported here has looked specifically at the impact of improved home gardening on the nutritional status and health of poor households. (ILEIA)

Martin, A. and Oudwater, N. (2000) Urban Agriculture and the livelihoods of the poor in Southern Africa. In: H. Hoffmann, K. Mathey (eds.). Urban Agriculture and Horticulture, the linkage with Urban Planning. 2000. International Symposium. Berlin July 2000. (on cd-rom).
land use planning food security and nutrition
South Africa; poverty; livelihoods

The paper focuses on three dimensions of the social, institutional and planning context of urban agriculture. Firstly an analysis of the contribution of urban

agriculture to the livelihoods of different social groups; secondly, factors affecting the outcomes of urban agriculture projects, and thirdly, the linkages between households, communities and the planning authorities. The policy implications of these are discussed. The paper is based on research carried out in informal settlements in South Africa (Cape Town and Pretoria) and Zimbabwe (three sites in Harare, one periurban setting with strong market linkage to the central food market, a resettlement area and a high density township). Appropriate policy responses to support urban agriculture as part of sustainable urban livelihoods are needed. In Southern Africa there is increasing awareness and interest among policy makers concerning the potential of urban agriculture, but present policies provide limited support.

Mawoneke, Sthembile (1998). Impact of the urban agriculture research study in Zimbabwe. ENDA Zimbabwe, Box 3492, Harare, Zimbabwe

economic impact food security and nutrition health and environment
Zimbabwe; economic impact assessment; food security; off-plot cultivation; health hazards; heavy metals

Reports on the results of a household monitoring study aiming at determining the economic impact of urban agriculture on urban households in Harare, Zimbabwe, assessing the nutritional impact of agricultural produce on urban households; and identifying crop types and off-plot cultivation. Simultaneously, environmental research was conducted focusing on assessing the impact of urban agriculture on the urban environment. (WB)

Maxwell, Daniel G. (1996). Highest and best use? Access to urban land for semi-subsistence food production. In: Land Use Policy vol.13 (1996) no. 3 p. 181-195

land use planning food security and nutrition
Africa; access to land; land tenure; semi-subsistence farming

Pressures on urban policy-makers in Africa to formalise land tenure and land delivery systems are increasing. Parallel, there is an increased demand for informal access to land in urban areas. From analysing what brings the highest and best use, the land access and land tenure issues in Kampala, Uganda are discussed. Semi-subsistence agriculture is an important component of the urban system, yet it is a technically illegal form of land use. From the situation analysis, possible policy responses to competing demands over urban resources are presented. (NB - abstract adapted from original)

Maxwell, Daniel G.; Armar-Klemesu, Margaret (1998). The impact of urban agriculture on livelihood, food and nutrition security in Greater Accra. 30 p. Nutrition Unit, Noguchi Memorial Institute for Medical Research, University of Ghana, PO Box 25, Legon, Ghana

food security and nutrition economic impact health and environment
food security; Ghana; Accra; nutrition; livelihoods; health; environment; land use

systems; food contamination; gender; multi-disciplinary approach; institutional aspects; human resource development; farming systems

Part one of the paper summarises the major findings of the urban agriculture component of the overall study. The geographic, demographic, and socio-economic distribution of urban agriculture in Accra is presented. The impact of urban agriculture on food and livelihood security and nutritional status at household level and individual level are discussed as well as the environmental impacts and the impacts on health. An analysis is made of how city growth affects land use, property rights and livelihoods on the urban fringe. Finally, various other areas like human resource development, institutional strengthening, local partnerships gender are discussed. (NB)

Maxwell, Daniel G. (1999). Urban Food Security in Sub-Saharan Africa. In: For hunger-proof cities: sustainable urban food systems / Mustafa Koc, Rod MacRae, Luc JA Mougeot and Jennifer Welsh (eds), p. 26-29. ISBN 0_88936_882_1. CAD 35.00.

Supplier: International Development Research Centre (IDRC), Publications Department, PO Box 8500, Ottawa, Ontario, Canada K1G 3H9

food security and nutrition

sub-Saharan Africa; urban poor; access to food; political aspects

Cities in Africa face numerous problems, including alarming increases in the levels of urban poverty. The urban poor devote large proportions of their total incomes to procurement of food, meaning that, to a large extent, the poverty problem manifests itself as a food-security problem. Problems faced in the area of urban food security, particularly giving the urban poor access to sufficient food, are scarcely recognised in policy arenas or contemporary political debates. This paper traces the reasons for the "disappearance" of urban food security from the political agenda, noting that urban food security classically meant ensuring the food supply for a city. More recently, the problem has become one of access to sufficient food, as a result of rapidly growing urban poverty, and the urban poor have relatively little political voice. The paper goes on to suggest a series of questions to guide policy research and action to alleviate urban food insecurity insub-Saharan Africa. (NB - abstract adapted from original)

Maxwell, Daniel G. [et al.] (2000) Urban livelihoods and food and nutrition security in Greater Accra, Ghana. International Food Policy Research Institute (IFPRI), 2033 K Street, N.W., Washington, DC 20006-1002, USA. IFPRI Research Report no. 112

food security and nutrition

Ghana ; food security ; periurban agriculture ; surveys ; street vendors

This report is the outcome of the Accra Urban Food and Nutrition Study, a collaborative effort of the International Food Policy Research Institute (IFPRI), the Noguchi Memorial Institute of Medical Research in Accra, and the World Health Organization. It examines the nature of urban poverty and how it relates to food insecurity and malnutrition in Accra, Ghana, especially among children. By exploring

the major determinants of food security and nutritional status, it develops indicators that are appropriate in an urban context, identifies vulnerable groups within the city, and suggests policies and programmes to improve the lives of the urban poor. With regard to the importance of urban agriculture in food security strategies of the poor in Accra, the authors found it to be less important than in some other African cities, but it is of critical importance in the periurban areas around the city. Agriculture as a source of livelihood is increasingly vulnerable as the city physically expands, destroying farmland. Street vendors in Accra play an important role in food distribution: their role should be acknowledged by city authorities. This major study has important consequences for policy making: governments have to accept the fact that urban poverty is real and must be addressed, especially when vulnerable groups, such as female-headed households, are concerned. (WB - adapted from the original summary)

Mbiba, Beacon M (1999). Urban agriculture in Zimbabwe. Urban Agriculture Notes
<http://www.cityfarmer.org/zimbabwe.html>. 2 p. Department of Rural and Urban Planning, University of Zimbabwe, PO Box MP 167, Harare, Zimbabwe
Supplier: City Farmer, Canada's Office of Urban Agriculture
horticulture food security and nutrition
Zimbabwe; poverty; income generation; food production

A summary of the book "Urban agriculture in Zimbabwe" by Beacon Mbiba. A table of contents is provided. The book addresses the phenomenon of urban agriculture in Zimbabwe. (NB)

Mbiba, Beacon M (1995). Urban Agriculture in Zimbabwe: Implications for Urban Management and Policy. Chapters. 1856288579: USD 59.95 (hardcover).
Aldershot, England: Avebury
genderfood security and nutrition
Africa, Zimbabwe, women's employment, adolescents, gender roles, socioeconomic differentiation, gender relations, access to land, decision making, power relations, men's roles, women's role, men's strategies, women's strategies

This book addresses the phenomenon of urban agriculture in Zimbabwe. While it acknowledges that the activity is a significant source of food and income for the urban poor, the book draws attention to the development conflicts raised by the activity. It attempts to place urban agriculture within the context of urban economy, the environment, institutional concerns, gender and urban poverty. Evidence presented confirms the role of urban agriculture for employment of women and children. A review of gender dimensions of informal urban cultivation highlights the needs, problems and experiences of women's double burdens of production and reproduction. Men's social and economic motivation for urban cultivation activities are also noted. Issues of 'gate-keeping', women landlordism, and decision-making are discussed in terms of gender dynamics. It is noted that women are not a homogenous group, thus there is a need to revise generalizations of poor women, and extend research issues to high income groups. The author contends that urban cultivation should only form one part of a strategy designed to improve the position

of urban women for it does not tackle the problems of women's access to education, skills, wage and self-employment. Based on ongoing research the book demonstrates that there is a potential for urban agriculture as part of the urban economy, but that the urban poor, including women-headed households, are not major beneficiaries of the activity. (AH)

Mbaye, Alain (et al.) (1999). Some more urban agriculture case studies: Dakar, Cairo, Zambia and Cagayan de Oro. In: Gate: Technology and Development no. 2 (April-June 1999) p. 40-47

food security and nutrition economic impact city ecology
food security; ecology; economic impact; nutrition; land use planning; political aspects

Discusses case studies on urban agriculture in Dakar, Cairo, Lusaka, and Cagayan de Oro (Philippines). An overview is presented including what are the main agricultural activities, who is involved, what are the environmental and economic impacts and policy implications. Extended versions of the case studies can be found in 'Growing Cities, Growing Food: Urban Agriculture on the Policy Agenda' published by DSE-ZEL. (NB)

Mbiba, Beacon M (1993). Urban agriculture in Zimbabwe: implications for urban poverty and management. The Making of Modern Africa Series. ISBN 1 85628 857 9. NLG 225.00. Department of Rural and Urban Planning, University of Zimbabwe, PO Box MP 167, Harare, Zimbabwe

horticulture food security and nutrition
Zimbabwe; urban environment; urban development; development policies

The book is based on research conducted in Zimbabwe in 1991 and rejuvenated local interest on urban agriculture. In southern and eastern Africa, urbanisation is a major process transforming the economies. Most urban centres were planned for much smaller populations and they lack adequate formal sector employment for the growing workforce. As a result most urban environments are characterised by informal sector activities, of which urban agriculture is increasingly an important feature. While it acknowledges that the activity is a significant source of food and income for the urban poor, the book draws attention to development conflicts raised by the activity. The book places urban agriculture within the context of urban economy, urban management, and urban development also discussed are the gender dimension, environment institutional aspects. Lastly ways to develop urban agriculture to its full potential in Harare are explored. (NB)

Mbiba, Beacon M (2000). Urban agriculture in Harare: between suspicion and repression. In: Growing cities, growing food: urban agriculture on the policy agenda, p. 285-301. DSE, GTZ, CTA, SIDA

horticulture food security and nutrition

farming systems; food security; food policy; land use systems; ecology; economic impact; gender; urban policies; poverty; land tenure; legislation; Zimbabwe

Harare has several conditions favourable to urban agriculture including a relatively wet climate, large residential plot size and large open spaces in the city. Urban agriculture can be classified into on-plot agriculture, off-plot agriculture, and periurban agriculture. The collapse of the formal economy gives rise to urban agriculture. Most of the production is for subsistence. Whereby women provide the bulk of the labour and management inputs. This can be related to their traditional roles of food procurers. The official view is that urban agriculture poses a threat to the environment, but potential contributions to the environment remain unexplored. Existing policies swing between repression and tolerance, while urban agriculture is not perceived as a viable solution for food security or job creation. The general opinion is that there is ample rural land available for production, rather the problem is the inequitable distribution of land. Research and lobbying helped to create a basis for dialogue around the potential of urban agriculture. For this the target should be to increase food production and make it available, affordable and adequate through out the year. The challenge is to discover how the ambiguity of the legal framework can be used to extent urban agriculture. (NB)

McKenzie, John; Wright, Sarah; Phillips, Toni (1999). **Revolutionary food. On:** <http://www.peg.apc.org/~adamt/cuba/hab9606/hab9606.htm>. 5 p. **Australian Conservation Foundation, Urban Permaculture Project, Havana, Cuba**
Supplier: Australian Conservation Foundation
food security and nutrition
Cuba; urban gardens; food security

Using the example of Havana, Cuba, the paper demonstrates the importance and potential contribution of urban food gardens to solving the food crisis, cutting costs and environmental improvement in cities. (NB)

Memon, Pyar Ali; Lee-Smith, Diana (1993). **Urban agriculture in Kenya. In:** **CJAS/RCEA (January 1993) p. 25-42. Mazingira Institute, Nairobi, Kenya**
horticulture food security and nutrition
food security; surveys; Kenya

Presents the results of a survey among urban farmers in Kenyan cities by the Mazingira Institute. The study concludes, once more, that subsistence production in towns and cities has been neglected in economic and spatial planning to the point of being outlawed Still, the economic value of urban subsistence farming is both significant at the national level and crucial to the poor themselves. (WB)

Meyer-Renschhausen, Elisabeth; Holl, Annegret (eds) 2000. **Die Wiederkehr der Gaerten: Kleinlandwirtschaft im Zeitalter der Globalisierung.** 229 p. ISBN 3-7065-1534-2. Innsbruck: Studien-Verlag

horticulture food security and nutrition community development
horticulture; gardening; allotment gardens; vegetables; conferences; Germany;
United States; Cuba; Mexico; Burkina Faso

More and more city dwellers become involved in producing vegetables and fruit, rather than consume commercially produced food. The reasons strongly vary, however, from sheer necessity in many Eastern European and developing countries to a reaction to the unhealthy commercial products and the benefits of a relaxed pastime for overstressed urban citizens.

A number of chapters in this book were originally presented at the 'International Symposium on Urban Agriculture and Horticulture: the Linkage with Urban Planning' held in Berlin in July 2000. Cases described are from Western Europe -Germany, in particular-, Eastern Europe, the USA and from developing countries. Many different aspects are described, ranging from the land use issues, that never fail to come up in these cases, to community development and to descriptions of gardening systems, like the chinampas near Mexico City. Interestingly, a number of projects are analysed that were unsuccessful in involving the beneficiaries. Invariably, these projects did not take traditional production and consumption patterns enough into account. This is an important warning not to automatically paint a rosy picture of urban gardening. (WB)

Mies, Maria; Bennholdt-Thomsen, Veronika (1999). The subsistence perspective: beyond the globalised economy. 246 p. ISBN 1_85649_776_3 (pbk). GBP 15.95
Supplier: Zed Books, 7 Cynthia Street, London N1 9JF, UK
food security and nutrition
subsistence farming; urban planning

This book is not just a translation of a former paper (in German: Eine Kuh für Hillary: Die Subsistenzperspektive – A cow for Hillary, The Subsistence Perspective), but an updated and upgraded book. In this book, Bennholdt-Thomsen and Mies put the subsistence perspective not only as still being very alive and valuable for sustainable development, but as an alternative to the current globalised free market system. After a historic overview, the subsistence perspective is subsequently analysed and applied on globalisation, agriculture, markets, cities, the commons, wage labour, women's liberation and politics. Of course there are overlapping issues between these sectors. An interesting section regarding urban agriculture is chapter 5. A picture of self- provision co-op stores is given. And an interesting perspective is given on urban gardening, which is explained as an answer to the neo-liberal policy of de-industrialisation in the cities of UK, USA and Japan (in the latter called Yabo Farmers). Subsistence in the cities, it is argued, is not an utopian pipe dream, but being practised in many diverse ways. They however, leave the question unanswered whether we should view urban agriculture as a sign towards the design of sustainable cities or as "just" instrumental for the maintenance of the world capitalist system. While it is worthwhile thinking about this, it will not keep the thousands of urban "peasants" from producing. (RvV)

Ministry of Planning and Finance (1998). Consolidation of the household food security and nutrition information network for policy formulation and development planning in Mozambique. FAO Field Document no. 1. 54 p. Ministry of Planning and Finance, Department of Population and Social Development, Maputo, Mozambique

R&D methodology food security and nutrition

food security; nutrition; methodologies; urban policies; Mozambique; Zambia; urban planning

A workshop report documenting the process of developing and implementing a methodology for the compilation of urban food security and nutrition profiles in Mozambique. Draft methodology, presentations and issues raised during the workshop are presented. A supplementary report in English presents the workshop objectives, key issues and a presentation of the Zambian experience. (NB - abstract adapted from original)

Mlozi, MRS; Lupanga, IJ; Mvena, ZSK (1992). Urban agriculture as a survival strategy in Tanzania. In: Baker J. & Pedersen P.O. (eds). The rural-urban interface in Africa: expansion and adaptation; seminar proceedings no. 27. Uppsala: Nordiska Afrikainstitutet (The Scandinavian Institute of African Studies). pp. 284-294

food security and nutrition rural-urban linkages

Tanzania; survival strategies; urban poor

The urban agriculture research project was carried out by Sokoine University of Agriculture, with support from the International Development Research Centre (IDRC). Researchers interviewed 1 800 respondents in six towns: Dar es Salaam (700); Dodoma, Morogoro and Mbeya (300 each); and Makambako and Kilosa (100 each). The sample covered both high density and low density settlement patterns: it included political and non-political leaders, farmers and non-farmers, and men and women. It was noted that urban agriculture was practiced not only by the urban poor, but also by members of the middle class. About 90% of home gardens and out-of-town fields were used to grow field and vegetable crops for home consumption, as a cash-saving strategy. The middle class in medium-density areas and the well-off in low-density areas were the main livestock producers: they sold milk and eggs as a means of maintaining their standard of living in an inflationary context. Constraints to farming included access to inputs such as land, finances, labour, water, etc., especially by the poor; theft of crops; pests and diseases; destruction of crops by people, stray animals, vehicles, municipal employees, etc.; and contamination of crops by refuse. This chapter describes the factors that have contributed to the growth of urban agriculture in Tanzania; discusses the implications of coexistence between agricultural activities and normal urban life and activities; and draws conclusions and makes recommendations as to how the government can handle the growth of urban agriculture as an income earner. (HC, IDRC)

Morris, Saul S (2000). Targeting urban malnutrition: a multicity analysis of the

spatial distribution of childhood nutritional status. IFPRI FCN(DP No. 94. 29 p.
food security and nutrition
malnutrition; food security; health; children; youth; geography; surveys

This paper examines the degree to which urban childhood malnutrition, disease, poverty substandard housing and lack of access to sanitation tend to concentrate in certain disadvantaged neighborhoods in developing country cities. Findings are presented for seven cities in Africa, Asia, and Latin America. The results suggest that the conventional view that childhood malnutrition is primarily concentrated in squatter settlements and slum areas greatly oversimplifies a complex reality. There was consistently little evidence of spatial clustering of malnutrition as indicated by weight-based nutrition indicators. The findings challenge the appropriateness of geographically targeting nutrition interventions in cities. The reviewer concludes that urban agriculture, applied citywide, is an appropriate nutrition intervention whereas many spatially targeted commodity interventions are likely to miss their target. (JS)

Morrow, K (1997). Feeding the poor: improving household production of Guinea pigs in Peru. IDRC Reports. October 31, 1997. On:
<http://www.idrc.ca/books/reports/1997/33-01e.html>.

food security and nutrition
Peru; guinea pigs; quality of diet

Guinea pigs are an important staple of the Andean diet. They are traditionally raised by women and children in the kitchen, where they are fed vegetable scraps and fresh greens such as alfalfa. For the past 25 years, researchers at the Agricultural Research Station of the Agrarian University of La Molina research station on the outskirts of Lima have worked to improve the Guinea pig's productivity by breeding animals that produce many offspring and reach reproductive age early. By 1986, the team had identified the first promising breeds that combined the two desired qualities. They had also developed simple, low-cost husbandry methods to protect the animals from disease and prevent inbreeding. With funding from the International Development Research Centre (IDRC), they began introducing the improved breeds and methods in the Cajamarca region, one of the poorest areas of the country. More recently, the team has shifted its attention to helping recent migrants raise Guinea pigs in the city. This article is also available in French and Spanish. (HC, IDRC)

Mosha, A.C. and Cavric, B.I. (2000) The Practice of Urban Agriculture in Gaborone City. In: H. Hoffmann, K. Mathey (eds.). Urban Agriculture and Horticulture, the linkage with Urban Planning. 2000. International Symposium. Berlin July 2000. (on cd-rom).

land use planning food security and nutrition
Botswana; strategies; policy

The aim of this paper is to presents on the development and spatial extent of urban agricultural practice in the city of Gaborone, one of the fastest growing urbanities in Africa. From this case study, lessons can be drawn for future urban agriculture

practices in semi-arid climatic conditions in Africa and abroad. The main interest in the study was to see to what extent, the people in the city of Gaborone carried out urban agriculture activity. The results from the study show that, urban agriculture in Gaborone is dominantly spontaneous and creative response and to some extent is found to be one of the survival strategies of the urban poor. As this case study has just scratched the surface of this very important urban subject in Botswana capital, there are many more questions, which need further researching into before the city can capture the full potential of this activity.

Moskow, Angela Lynne (1996). The contributions of urban agriculture in Havana, Cuba to individual control and community enhancement. Masters thesis. University of California, Davis, 121 p.

food security and nutrition

food security; urbanisation; gender; community security; micro enterprise; community gardens; household gardening; geography; organic agriculture; policy; organisation; agricultural extension; environment; Cuba

This thesis is based on an extensive field survey and supplements several other recent studies of urban agriculture in Havana. It has a particular focus on the psycho-social benefits of the urban gardens. It has excellent data and tables. (JS)

Moskow, Angela Lynne (1999). The contribution of urban agriculture to gardeners, their households, and surrounding communities: the case of Havana, Cuba. In: For hunger-proof cities: sustainable urban food systems / Mustafa Koc, Rod MacRae, Luc JA Mougéot and Jennifer Welsh (eds), p. 77-83. ISBN 0_88936_882_1. CAD 35.00.

Supplier: International Development Research Centre (IDRC), Publications Department, PO Box 8500, Ottawa, Ontario, Canada K1G 3H9

community development economic impact food security and nutrition
food security; community development; economic impact; food quality; Cuba

Urban agriculture is promoted in Havana, Cuba, as a means of addressing the acute food-scarcity problems that developed when Soviet aid and trade were drastically curtailed in 1989. Today more than 26 000 gardens in Havana provide for the gardeners' own food needs. Research was conducted in 1995 to determine the ways these gardens contributed to the gardeners' sense of control over their lives and the role of the gardens in enhancing the surrounding communities. Results indicate that the gardens significantly incremented the quantity and quality of the food available to the gardeners' households and neighbourhoods; improved financial welfare through reduced gardeners' households weekly food bills and through money earned from sales of garden products; and made aesthetic, environmental, and other contributions to the community. (Abstract adapted from original)

Mougéot, Luc JA; Egziabher, AG; Lee-Smith, Diana; Maxwell, Daniel G.; Memon, Pyar Ali (1994). Cities feeding people: an examination of urban agriculture in East

Africa xiv, 146 p. ISBN 0_88936_706_X. GBP 9.95. International Development Research Center (IDRC), PO Box 8500, Ottawa, Ontario, Canada K1G 3H9
Supplier: Intermediate Technology Publications (ITP), 103-105 Southampton Row, London WC1B 4HH, UK

food security and nutrition rural-urban linkages economic impact
case studies; Africa (Eastern); farming systems; food production; urban communities

Urban agriculture is gaining importance in order to reduce developing countries' dependency on food imports in order to feed rapidly growing urban populations. The underlying book studies urban agriculture in four East African countries: Tanzania, Uganda, Kenya and Ethiopia. In these countries, IDRC began examining impact and feasibility of urban agriculture a number of years ago. Urban agriculture has long been neglected by researchers as a marginal, unproductive activity undertaken by the urban poor. However, under the pressure of falling per-capita food production in Africa south of the Sahara, and subsequent migration to urban areas resulting in high unemployment, urban agriculture can no longer be ignored as an important part of the urban informal sector, providing income or income-substituting food. An important aspect of the study of urban agriculture is that the approach that looks at rural and urban economies as completely separate entities is seriously questioned. In reality, these economies have many links, although they do not necessarily appear in official statistics. Better land use agreements are needed for urban food production to flourish. More government involvement and interest in urban agriculture will be necessary to achieve this. (WB)

Mougeot, Luc JA.(1993) Urban food self-reliance: significance and prospects. International Development Research Center (IDRC), PO Box 8500, Ottawa, Ontario, Canada K1G 3H9

food security and nutrition
selfreliance; food security; survival strategies

This early article on urban farming provides an overview of the importance of the contribution to urban food self-reliance and the scale of urban farming. Furthermore the article touches on prospects for urban agriculture research and its priorities by referring to the major issues of urban agriculture: technologies, the urban ecosystem, the urban economy, access to land and credit, waste and health risks and equity aspects. (NB)

Mougeot, Luc JA (1994). The rise of city farming: research must catch up with reality. In: ILEIA Newsletter vol. 10 no. 4 (December 1994) p. 4-5.
Supplier: Information Centre for Low-External-Input and Sustainable Agriculture (ILEIA), PO Box 64, 3830 AB Leusden, The Netherlands

horticulture food security and nutrition
home gardening; urban communities; urban development; urban environment; urban population; urban wastes

Farming has probably been carried out in cities ever since they came into being. Luc

Mougeot from the International Development Research Centre (IDRC) in Canada traces the history of farming from ancient cities to the challenges facing urban planning and research in the North and South at the dawn of the 21st century. (ILEIA)

Mougeot, Luc JA (1994). Urban food production: a survey of evolution, official support and significance: with special reference to Africa. 42 p. International Development Research Center (IDRC), PO Box 8500, Ottawa, Ontario, Canada K1G 3H9

food security and nutrition

food production; urban environment; urban population

The article presents an overview on urban agriculture arguing that the largest advances in production and marketing systems in urban agriculture are found in and around major Asian cities. Cases from China are cited as well from Philippines and other countries. Developments outside Asia are also presented with reference to Dar es Salaam, Nairobi, Harare, Ivory Coast and North America. It is argued that city governments are now paying much greater attention to the role of urban agriculture in urban development. (NB)

Mougeot, Luc JA (1998). Farming inside and around cities. In: Urban Age (winter 1998) p. 18-21

economic impact

food security and nutrition

Africa; development projects; agricultural production; urban planning; urban development

General overview on urban agriculture, with, mostly, African examples. The author expects increased opportunities for urban agriculture in the twenty-first century, e.g. as a result of lower-density urban expansion and because urban planning will more systematically include an UA component. (WB)

Mougeot, Luc JA (1999). For self-reliant cities: urban food production in a globalizing south. In: For hunger-proof cities: sustainable urban food systems / Mustafa Koc, Rod MacRae, Luc JA Mougeot and Jennifer Welsh (eds), p. 11-25. ISBN 0_88936_882_1. CAD 35.00. International Development Research Center (IDRC), PO Box 8500, Ottawa, Ontario, Canada K1G 3H9

Supplier: International Development Research Centre (IDRC), Publications Department, PO Box 8500, Ottawa, Ontario, Canada K1G 3H9

food security and nutrition

globalisation; food security; coping mechanisms; food markets; social systems; land use; ecology; municipal policies; waste reuse; gender; food supply; food production; selfreliance; development policies

In this chapter food security is examined in the context of globalization and the forces of interdependence and self-reliance. While disparities continue, people have

learned to cope using ingenious ways to feed themselves, urban farming being one. As poverty rises in urban centres access to food has become an important issue. The author outlines the characteristics of urban food systems in the South and the factors that determine the ability of normal food markets to provide for city dwellers. As a response to food insecurity, today millions of people are producing and distributing food via intricate social systems. The paper discusses the major issues surrounding urban agriculture and the need to study its land use, environmental impact, and the municipal policy. Joint initiatives among international and bilateral development agencies have emerged during the 1990s, resulting in the formation of the Support Group for Urban Agriculture that sets priorities for research, training, and information. Options for the future must include strategies for self-reliance and an acknowledgment of the contribution urban agriculture can make to intensive and efficient local production, waste reuse, and the involvement of women. (Adapted from original abstract)

Mougeot, Luc J.A. (2002) Urban Agriculture: Main Concepts. International Development Research Centre (IDRC), Cities Feeding People Programme, Ottawa, Canada. In: *Urban Agriculture Magazine - World Summit Special Edition*, 2002, p. 7-8. Supplier: ETC NL

food security and nutrition

urbanisation, urban food production, concept development, concepts of urban agriculture

Key features of current definitions of "urban agriculture" generally have downplayed a critical trait that makes urban agriculture, urban. Urban agriculture (UA) is different from and complementary to, rural agriculture in local food systems: UA is integrated into the urban economic and logical system. Unless this dimension is enhanced and made operational, the concept will remain of little use to the scientific, technological and policy fronts.

Moustier, Paule (1999) Définitions et contours de l'agriculture périurbaine en Afrique subsaharienne. In : *Agriculture périurbaine en Afrique subsaharienne*, p.29 - 42

rural-urban linkages food security and nutrition

periurban agriculture; sub-Saharan Africa; land use

In this paper an attempt is made to outline the boundaries of periurban agriculture in Africa. The term "Periurban agriculture" refers to the influence the town has in terms of demand but also in terms of resources for which alternatives between agricultural and non-agricultural uses generate competition and complementarities. Its importance is parallel to the dynamics of urbanisation in sub-Saharan Africa. The involvement of urbanites inside and around cities is related to their employment and food situation. This involvement is neither marginal nor transitory but rather in constant change. The interface of the urban area and agricultural activities creates changes in resource uses, choice of marketed products and marketing strategies. The economic and agronomic sustainability of the industries is in question. There have been different foci in the available research: spaces influenced by cities;

natural resource management; strategies of urban residents; production systems; commodity and food systems. The analysis of vegetable commodity systems in different towns suggests ways to improve the comparative advantages of periurban agricultural commodities versus rural sources and imports, by supporting marketers in securing their supply in quantitative and qualitative terms. To ensure the sustainability of periurban industries it is necessary to cross-cut approaches on management of space and commodity system approaches which aims at favouring actors' consultation on the same commodity characteristics. (NB - Adapted from original abstract)

Murphy, Catherine (1999). Cultivating Havana: urban agriculture and food security in the years of crisis. Oakland: Food First Development Report No. 12.

food security and nutrition
policy; organic agriculture; Cuba

This report describes the structural, technological, and policy changes in urban agriculture that are reducing food insecurity in Cuba's cities. (JS)

Musa, Tansa. Yaounde, Cameroon: capital becomes garden city. Urban agriculture notes; on: <http://www.cityfarmer.org/cameroon.html> Supplier: City Farmer, Canada's Office of Urban Agriculture

food security and nutrition
Cameroon; crisis response; food security; income generation

A tale on how residents of Yaounde, Cameroon, are turning to urban agriculture in order to reduce their food bills. Among these urban farmers there is a fair proportion of government employees. (NB)

Mwangi, Alice Mboganie (1995). The role of urban agriculture for food security in low income areas in Nairobi. Food and Nutrition Programme no. 54. 82 p. ISBN 90_5448_028_9. Ministry of Planning and National Development, Nairobi, Kenya; African Studies Centre, Leiden, The Netherlands

food security and nutrition services
Kenya; food security; micro enterprise; nutrition; livestock; horticulture; rural-urban linkages; surveys; stakeholders; agricultural extension

Reports on findings of a survey of 1994 among 210 low-income households in Nairobi about the role of urban agriculture. One group has urban farmers organized by the UNDUGU Society and the other does not have any organisation amongst its farmers. It finds that urban farming leads to more food security and better nutritional status and access to extension services has very substantial benefits. Household income for the farmers was about 50 percent higher than average for the community. Findings reveal that the Kenyan government takes urban agriculture insufficiently into account in its planning. Policies regarding land distribution and tenure rights are not suitable for the urban farmers. The report states the need for agricultural

extension among low income households, with a special emphasis on women farmers, who constitute the majority of urban farmers. The constitution of an organisation representing urban farmers' rights is vital to protect their interests. Given health hazards connected with urban food production, the government should impose more control on waste, water and other environmental issues. The report suggests that poverty alleviation hinges on sustainable economic development stemming from close collaboration between governments, NGOs, donors, research institutions, and farmers. (WB)

Mwangi, Alice Mboganie; Foeken, Dick (1996). Urban agriculture food security and nutrition in low income areas in Nairobi. In: African Urban Quarterly vol. 11 no. 2-3 p. 170-179. Unit of Applied Nutrition, University of Nairobi, PO Box 30197, Nairobi, Kenya ; African Studies Centre, PO Box 9555, 2300 RB Leiden, Netherlands

food security and nutrition health and environment
food security; Kenya; children's health

Addresses the issue to what extent farming activities by low income urban dwellers within the city boundaries of Nairobi play a role in the food security and nutritional condition of the households involved. A comparison is made between three low income groups, i.e. those who practise urban farming, those who do not, and finally a group involved in an urban farming project. The results show that as far as food security is concerned, urban farming does play a role, but also that this is not translated into a better nutritional condition of the children. (WB - from the original abstracts)

Nichol, Lucy (2001), How can Planning help the local food economy? A Guide for Planners Oxford Brookes University, School of Planning, Oxford, OX3 0BP

food security and nutrition
local food system, planning, United Kingdom,

This document describes the characteristics of local food production and producers and explains what planners can do to help the local food economy. It advocates local food production by summing up all its benefits. A number of practical policy recommendations are made.(WiH)

Niñez, Vera K (1985). Introduction: household gardens and small-scale food production. In: Food and Nutrition Bulletin vol. 7 no. 3 (1985) p. 1-5.

horticulture food security and nutrition
home gardening; food production; gardening practices

Discusses household gardens as a household-level food production strategy and provides a useful list of functions and benefits, apart from the obvious food supply. Definitions are given of home gardens as against field production and market gardening and a systematic comparison is made between these three production modes. Interestingly, the author remarks on the fact that those who were involved in traditional gardening systems are rarely the ones who participate in the design and

implementation of garden projects. This seems a strange state of affairs. (WB)

Niñez, Vera K (1986). **The household garden as a lifeboat. In: Ceres no. 112 (July/Aug 1986) p. 31-36. Food and Agriculture Organization (FAO), Via delle Terme di Caracalla, 00100 Rome, Italy**

horticulture food security and nutrition
home gardening; food security; Peru; traditional gardens

Describes household gardens as an additional source of food for the urban poor. A typology for these gardens is given, both from a biophysical and a socio-economic viewpoint. Initial gardening programmes were unsuccessful, the author argues, as they were mostly a replica of temperate, 'budget' gardens and took local conditions and customs insufficiently into account. A Peruvian urban gardening project is analysed in detail. Community gardens evolved from European-style gardens to traditional Peruvian gardens as external financial support came to an end. This resulted in a shift of species planted, with a stronger staple food component, in more intercropping, and in a multi-layered set-up, including banana, papaya and climbing species. The author draws a number of conclusions based on such project experiences all hinting at the importance to link up with existing practices. Extension and advertising campaigns are important to interest as wide a range of people as possible. (WB)

Nitsch, Egbert; Aue, Christina (199?). **Bedeutung staedtischer Land- und Gartenwirtschaft in Einer Welt: Gaerten als Beitrag zur Welternaehrung und zur Oekologisierung der Staedte. 33 p.**

horticulture food security and nutrition city ecology
food security; urban poor; urban policies

Examines the role and position of urban agriculture in the light of food security for the urban poor. A number of policy measures are presented that are necessary to reach a wider impact. The authors argue that this role is not restricted to cities in developing countries but plays an important role in greening cities in industrialised countries as well. (WB)

Nugent, Rachel A (2000). **The impact of urban agriculture on the household and local economies. In: Growing cities, growing food: urban agriculture on the policy agenda, p. 76-97. DSE, GTZ, CTA, SIDA**

economic impact food security and nutrition health and environment
household economy; local economy; employment; income generation; labour markets; gender; economic diversification; urban policies; macro-economic impacts

On basis of the case studies presented in the reader the article analyses the economic impact of urban agriculture on individual, household, city and macro-economic level. The paper explores the economic conditions and policies in urban areas that create the impetus for urban agriculture to exist and which affect its

viability. The capacity of urban agriculture to provide jobs and income and value of production are analysed, which all are badly needed in fast growing cities. Conclusions are drawn on the economic relevance of urban agriculture based on both quantitative and qualitative knowledge. (NB)

Ofei-Aboagye, E (1996). Gender critique on urban agriculture: food security and nutritional status in greater Accra (Ghana). Report for IDRC Project No. 96-0013 003149. Reports. International Development Research Center (IDRC), PO Box 8500, Ottawa, Ontario, Canada K1G 3H9. Ottawa: IDRC Supplier: International Development Research Centre (IDRC), Publications Department, PO Box 8500, Ottawa, Ontario, Canada K1G 3H9

gender food security and nutrition

Africa, Ghana, gender issues, research agenda, development projects, gender analysis, methodologies, food security, nutrition

This proposal review is based on an IDRC study on food security and nutritional status in Greater Accra, Ghana, and highlights key issues in gender considerations for research on urban agriculture. It focuses on the reviewer's expectations regarding objectives of the study and suggestions for improvement along gender lines. The reviewer notes that resources of land, water, credit, information and other inputs need to be considered from a gender perspective. Gender proportions of poverty and its influencing factors should inform the design of conceptual framework and proposed methodology (with qualitative methods facilitating particularly rich gender enquiry). The reviewer contends that the participation of a female leader researcher does not necessarily guarantee incorporation of a gender perspective. Use and involvement of policy makers, the National Council on Women and Development, women's organizations and the media are critical at various stages of the research. (AJH)

Okpala, Don C.I. (2002) Urbanisation, Poverty and Urban Food Security. Urban economy and Finance Branch, UNCHS (HABITAT) In: Urban Agriculture Magazine - World Summit Special Edition, 2002, p. 1-2. Supplier: ETC NL

food security and nutrition rural-urban linkages

urbanisation, urban food production, poverty, food security

In this new millenium two of the most significant development challenges are rapid urbanisation and growing poverty. The combination of these two trends within cities and towns in Africa, Asia and Latin America has resulted in a special problem now recognised by a new name - "urbanisation of poverty".

Oni, S. I. (2001) Urban agricultural Enterprises in West Africa: Case of Metropolitan Lagos, Nigeria. In: H. Hoffmann, K. Mathey (eds.). Urban Agriculture and Horticulture, the linkage with Urban Planning. 2000. International Symposium. Berlin July 2000. (on cd-rom).

land use planning food security and nutrition

Nigeria; poverty

This paper discusses the historical antecedent of urban agricultural enterprises in West African countries and particularly shows how urban agriculture is practiced as a means of addressing the consequences of unguided urbanisation such as acute unemployment of low/medium class level, food shortages, poor nutrition and urban poverty. It examines the socio-economic characteristics, factor costs, returns and profitability levels of the enterprise. The research findings show that while commercial vegetable entrepreneurs in metropolitan Lagos are dominated mainly by poorly educated migrant farmers, higher proportion of commercial floriculturists are well-educated, and are engaged in this enterprise on part-time basis. It is also revealed that the revenue derived from a unit of floriculture is higher than from commercial vegetables, while seedlings raised for fruits earn highest. The author advocates for urban agricultural networking involving information, exchange on expertise and projects, and exchange.

Onumah, GE; Hubbard, M (1999). Urban food supply and distribution: policies addressing urban poverty. FAO Rome; 45 p.

food security and nutrition
policy; food distribution; poverty

This well documented paper suggests that all concerned city authorities need to agree on a set of goals, objectives and plans that guide them in the use of resources to improve the performance of their food supply and distribution systems (FSDSs) including: (i) urban and periurban food production, (ii) distribution networks (markets, shops, and informal), (iii) food waste disposal, recycling and (iv) reducing traffic. The objectives, broadly, are (a) food security, (b) efficient distribution, (c) safe food, (d) green city. The paper concludes with “formulating, implementing and monitoring urban food supply and distribution policy”. The cases present best practice and the references point to more information. (JS)

Ouedraogo, S; Zoundi, SJ (1999). Approvisionnement de la ville de Ougadougou en poulets de chair. In: Agriculture urbaine en Afrique de l'Ouest: une contribution à la sécurité alimentaire et à l'assainissement des villes = Urban agriculture in West Africa: contributing to food security and urban sanitation / Olanrewaju B. Smith (ed.), p. 67-82. Natural Resources Management and Production System Department

services food security and nutrition Rural-Urban Linkages
poultry production; meat supply; economic aspects; employment

The contribution of modern producers to the urban meat supply system is low. Traditional producers are the main suppliers to the city. Most production comes from a range of 10 to 200 km from Ougadougou. (NB)

Pariser, ER et al (1988). Postharvest food losses in developing countries. National Academy of Sciences, Washington D.C. 206 p.

food security and nutrition

post-harvest operations; fish; food distribution

This study is devoted to assessing both the potential of food loss reduction efforts and their limitations. It summarizes existing work information about losses of major food crops and fish. It suggests policy and program options for developing countries and technical assistance agencies. Modern technology enables conservation of most food commodities almost indefinitely without loss. Cost is the prime limit. Each country is advised to establish a national postharvest policy body to carry out research (in country) and advise decision-makers. Fish is given special attention, including fish farming close to market. (JS)

Pederson, R.M.. and Robertson, A.. (2001). Food Policies are essential for Healthy Cities. In: *Urban Agriculture Magazine*, no 3, Health , March 2001, RUAF, Leusden The Netherlands.

health and environment food security and nutrition
Europe; policy

Food production and its retail are increasingly perceived as presenting risks to society in Europe. Consumers are more and more concerned, no longer trust and have lost confidence in the food supply. In contrast food is essential for health. Policies are therefore needed to limit its risks and promote food's assets and re-store consumer confidence. Local food policies can demonstrate the assets, and not the liabilities, of urban and periurban food production and its retail. The benefits include improved physical and mental well-being. Social benefits could accrue from increased leisure opportunities, improved cohesion within the community and decreased social exclusion. Economic benefits arise from job creation, income generation and the development of enterprises for local food production and processing and its retail. More opportunities for education, recreation, tourism, and attracting new business could be created. Environmental benefits from improvements to water conservation and supply, air quality, carbon dioxide levels, bio-diversity, waste-management and energy-saving could result from local food policies.

Pederson, R.M. (2001) Urban Food and Nutrition Security: Participatory Approaches for Community Nutrition. WHO Regional Office for Europe Programme for Nutrition and Food Security. ETC, The Netherlands. Suhr's Seminarium, Copenhagen. European Health21, Target 11. Supplier: WHO Regional Office for Europe, Scherfigsvej 8, DK-2100 Copenhagen, Denmark

food security and nutrition community development health / pollution
food security; urban areas; nutrition; participatory approaches; community participation; Europe (Western); food contamination; consumers

Urban Food and Nutrition Security is a growing concern in Europe. Rapid urbanisation creates new demands for food and nutrition, especially in low- and middle-income countries. This poses new challenges for food and nutrition intervention programmes. The rapid process of urbanisation has led to the so-called double burden of nutrition, a situation where nutritional deficiencies exist side by side with the emergence of over nutrition among vulnerable groups in urban areas. This

paper examines the applicability of participatory approaches as a tool for planning intervention programmes, and suggests guidelines for a participatory approach to address urban food and nutrition insecurity. Traditionally, nutrition programmes are designed using "top down" approaches. In contrast, community approaches argue that large-scale behavioural change can only be achieved by mobilisation of the community. During the 1980's and 1990's a large number of participatory approaches have been developed with the intent of mobilising rural communities to analyse their situation and take action to make improvements. Participatory approaches provide a valuable framework for enabling people to identify, analyse and mobilise resources within the community to overcome their problems. However, certain problems exist including the type and quantity of data collected and if it can be utilised by decision makers. In addition, experience of practitioners suggest that participatory approaches are applicable in urban areas, but special attention is needed to address the differences between urban and rural communities.

Pérez Rivero, Roberto (19??). La permacultura dentro del sistema de agricultura urbana de ciudad de la Habana, Cuba: su impactos en la seguridad alimentaria. Foundation for the Nature and Humankind, Cuba
food security and nutrition
permaculture; Havana; Cuba

The paper introduces a permaculture project in Havana City. Questions like 'is permaculture a proper technology for urban agriculture?'; 'how would this work in the urban agriculture system of Havana?'; 'what are its potentials and constraints?'; and 'what modifications would be needed?' are discussed. (NB)

Perkins, Ellie (1999). Public policy and the transition to locally based food networks. In: For hunger-proof cities: sustainable urban food systems / Mustafa Koc, Rod MacRae, Luc JA Mougeot and Jennifer Welsh (eds), p. 60-63. ISBN 0_88936_882_1. CAD 35.00
Supplier: International Development Research Centre (IDRC), Publications Department, PO Box 8500, Ottawa, Ontario, Canada K1G 3H9
food security and nutrition R&D methodology
food systems; ecology; public policy; local economy

Food networks play an important role in local economies because of their many linkages, their employment requirements, and the ties among food, culture, health, and well. This paper explains the social, economic, and ecological importance of locally based food production and distribution systems, giving examples of policies and institutions that communities and governments can use to help develop them. It provides examples of such measures in action from Toronto and other places. The paper also discusses the relationship between public policy and grass-roots community initiatives as part of the local institutional structures surrounding food. Finally, the paper sets out several criteria for assessing the ecological implications of public-policy measures and discusses the political and cultural conditions that favour development of locally based economies and food systems. (NB - abstract adapted from original)

Pinstrup-Andersen, Per et al (1998). World food prospects: critical issues for the early 21st century. IFPRI Washington D.C. 32 p.

food security and nutrition

urbanisation; food security; malnutrition; WTO; livestock; roots & tubers

This report provides a summary of the projections of the future world food situation. It identifies and discusses current and emerging issues that will influence global food security are explored: (i) deteriorating nutrition status, (ii) grain prices, (iii) WTO trade policies, (iv) small farm productivity, (v) agroecology, (vi) precision farming (vii) biotechnology, (viii) information technology. The solution offered is political will. (JS)

Pinzás, Teobaldo (1994). Can city farming survive? In: ILEIA Newsletter vol. 10 no. 4 (December 1994) p. 10. Instituto de Estudios Peruanos, Horacio Urteaga 694, Lima 11, Peru

Supplier: Information Centre for Low-External-Input and Sustainable Agriculture (ILEIA), PO Box 64, 3830 AB Leusden, The Netherlands

economic impact food security and nutrition horticulture

home gardening; horticulture; Peru; urban communities; urban development; urban environment; urban population; urban wastes; vegetables; waste recycling; women

Early 1994 ETC Foundation asked Theobaldo Pinzás to make an exploratory study on urban agriculture in Peru. This is an excerpt from his report, focusing on his findings about urban vegetable growing. In his full report, he suggests that more attention be given to recycling of waste and sewage water. (ILEIA)

Pothukuchi, Kameshwari; Kaufman, Jerome L (1999). Placing the food system on the urban agenda: the role of municipal institutions in food systems planning. In: Agriculture and Human Values No. 16 (1999) p. 213-224.

land use planning food security and nutrition

food systems; food policy; urban planning

This article is a perceptive look at the relationship of city planning and the urban food system in America at the turn of the century. The urban food system is less visible than such other urban systems. The reasons for its low visibility include the historic process by which issues and policies came to be defined as urban; the spread of processing, refrigeration and transportation technology; together with cheap, abundant energy; that rendered invisible the loss of farmland around older cities; as well as the continuing institutional separation of urban and rural policy. Despite its low visibility, the urban food system contributes significantly to community health and welfare; to metropolitan economies; connects to other urban systems such as housing, transportation, land use, and economic development and impacts on the urban environment. Existing and potential city institutions that could offer a more comprehensive management of the urban food system are examined. These include the city department of food, the policy council, and the city-planning department.

(adapted from original by JS)

Pothukuchi, Kameshwari; Kaufman, Jerome L (2000). **The food system: a stranger to the planning field.** In: **APA journal** vol. 66 (Spring 2000) no 2. 12 p.

land use planning food security and nutrition
planning; food systems

The article argues that a conceptual gap exists in the planning field. The gap the food system, an area which planners continually impact both directly and indirectly, but which is rarely being considered in the planning process. The article helps to fill the gap by exploring why the food system has a low priority among planners, identifying specific ways the food system affects the economy, environment and health of communities and lastly by suggesting ways to strengthen community and regional food systems and food system planning. (NB)

Potutan, Gerald E; Schnitzler, Wilfried H; Arnado, JM; Janubas, LG; Holmer, Robert J (2000). **Urban agriculture in Cagayan de Oro: a favourable response of city government and NGOs.** In: **Growing cities, growing food: urban agriculture on the policy agenda**, p. 413-428. DSE, GTZ, CTA, SIDA

city ecology horticulture food security and nutrition
vegetable production; land use systems; health; ecology; economic impact; gender; urban policies; reuse of waste; land tenure; nutrition; NGOs; school gardens; home gardening; Philippines

Cagayan de Oro is a boomtown in Mindanao. A considerable number of farmers work in the periurban area mainly in vegetable production. Within town about 40% of the households engages in backyard farming and the majority of schools maintain nurseries. Vegetables are considered 'poor man's food'. Farmers consume more vegetables than wealthier people and farming contributes considerably to in-kind family income. There are initiatives to produce and improve composting of urban organic material. As powers became more decentralised, a City Agriculture Office was established. Awareness on urban agriculture is increasing. This all helps to promote urban agricultural initiatives. Legislation has been passed to secure agricultural land. Activities at local level are backed by a sustained flow of information through the media and by successful co-operation of NGOs and local government. (NB)

Powell, D; Wint, E; Brodber, E; Campbell, V (1990). **Street foods of Kingston. Mona: Institute of Social and Economic Research, University of the West Indies**

services food security and nutrition
Kingston; Jamaica; surveys; street food; street vendors; bylaws

This book presents the results of a project (85-0309) carried out with support from the International Development Research Centre (IDRC). The study included both men and women vendors. Researchers identified and mapped the location of

vendors across Kingston and St. Andrew, noting the type of food sold, predominant clientele, and peak selling time. They interviewed 300 vendors regarding procurement and preparation of food, vending practices, access to credit, and demographic characteristics. And, they conducted field observations of, and in-depth interviews with, 30 vendors. Seven samples of foods - two from the pre-prepared traditional solids group, four from the home-made liquids group and one from the non-traditional liquids group - were examined for extraneous matter and microbial content, as well as nutritive value and cost-nutrient benefit. The total plate count of microbes was high in all but two foods: jerk chicken and "sky juice." The high microbial count of most other products indicated poor sanitation and hygiene, e.g. improperly washed bottles for drinks. Other study findings were as follows: vending was the sole source of livelihood for most vendors; men regarded vending as a business whereas women tended to see it as temporary employment; and the best cost-nutrient benefit was found in prepared nontraditional solid foods. Three broad areas were identified in which policy interventions could facilitate the street food trade: the location of street food vendors; the access of food vendors to funding; and the training of food vendors in business management, hygiene and nutrition. (HC, IDRC)

Power, Elaine M (1999). Combining social justice and sustainability for food security. In: For hunger-proof cities: sustainable urban food systems / Mustafa Koc, Rod MacRae, Luc JA Mougeot and Jennifer Welsh (eds), p. 30-37. ISBN 0_88936_882_1. CAD 35.00.

Supplier: International Development Research Centre (IDRC), Publications Department, PO Box 8500, Ottawa, Ontario, Canada K1G 3H9

food security and nutrition

community development; food security; food systems; poverty reduction

One can distinguish two distinct approaches to the promotion of domestic food security in contemporary Canada: one to establish a sustainable food system and the other to eliminate poverty. These approaches correspond to the two main dimensions of food security, both of which are currently under threat in Canada. The paper attempts to bring them together in the community-development approach. Community-food projects emphasize making the food system local to minimize environmental impacts and fostering the development of community to make links among people who are isolated from each other. Some of the issues neglected to date include the hidden aspects of the rhetoric of community, reinforcement of individualistic ideology, limitations of coverage, and increased burdens on women. The paper calls for clarity in framing food-security problems because this determines what solutions are proposed. Reflection on the part of academics and activists is needed because the positions in the social and economic structure affect how we understand the problems. (Abstract adapted from original)

Pretty, Jules; Altieri Miguel (1999). Best practices in land resources management to achieve sustainable food cycles. CGIAR CSD 8 Dialogue Paper No. 3.

land use planning rural-urban linkages food security and nutrition
sustainable agriculture; environment; policy

This paper, prepared for the UN Commission on Sustainable Development, presents an approach to accelerating the trend to sustainable agriculture. It notes that although there has been increasing informal activity in the field only three countries have given explicit national support (Austria, Cuba and Switzerland). Sustainable agriculture is presented as multi-functional within urban and rural landscapes and economies (food and other goods, clean water, carbon sequestering, flood protection, environment for living, biodiversity). Four options for change are presented to the CSD: (i) better use of renewable resources, (ii) intensification of production, (iii) diversification of the agroecosystem, (iv) better use of non-renewable inputs. Institutions are urged to concentrate on process over product and to aim for win, win, win outcomes. (JS)

Programme for Nutrition Policy, Infant Feeding and Food Security, World Health Organisation (WHO) (1998). Draft urban food and nutrition action plan: elements for local action or local production for local consumption. 26 p. Programme for Nutrition Policy, Infant Feeding and Food Security, World Health Organisation (WHO), Regional Office for Europe, Scherfigsvej 8, 2100 Copenhagen, Denmark

food security and nutrition
Europe; action plan; policy development; food consumption; public health

Proposes an action plan for increasing production, access and consumption of vegetables and fruit in the EU and CEE. A number of project interventions to reach this goal is discussed. (WB)

Prudencio, Julio et al. (1993). Aspectos sobre la inseguridad alimentaria en Bolivia. La Paz, Bolivia: UNITAS.

food security and nutrition
bibliographies; food security; trade; health; Bolivia; poverty

This is a very high quality survey of nutritional status in rural and urban Bolivia. It examines the reasons behind the vastly different food security status of the well-to-do in the Capital La Paz and the poor in smaller cities and rural areas. It is one of the few such studies that include data and analysis of foreign trade, and over and under production is diverse product lines. It is exceptional in the vast amount of data presented in extended tables. (JS)

Rakodi, Carole (1988). Urban agriculture: research questions and Zambian evidence. The Journal of Modern African Studies 26:3 (1988) pp.495-515. Papers, 21 pp.

gender food security and nutrition
Africa, Zambia, gender roles, labour, food production, decision making, income

generation, subsistence production, research issues, urban policies

This article explores the forgotten or ignored area of food crop cultivation in urban areas in the 1980s. The author contends that the first stage in studying any neglected area is to review existing evidence and policy, in this case from Zambia, to reveal gaps and suggest avenues for further enquiry, policy formulation, and experimentation. The author situates urban agriculture within a wider framework of the gender division of labour, specifically the economic activities of women. Food production in Zambian cities is predominantly a women's activity, determined by the size of household, income per capita, stability of urban residence, and the availability of land for cultivation around the house and/or within reasonable walking distance. A strategy to increase the household production of fruit and vegetables for consumption and sale must be examined in the context of household decision-making, and especially the labour time available to women. Women's response to opportunities to grow more food will depend on the extent to which they make decisions about cultivation, the use or sale of produce, and the distribution of benefits within the household. More detailed evidence from urban agriculture projects and wider implications of such a policy must be assessed before more widespread cultivation is advocated. This includes assessing the benefits to households, and especially to women, compared to alternative economic opportunities which might be made available by other initiatives. (AH)

Rauber, Paul (1999). Food for thought: cultivating our cities. On:
<http://www.sierraclub.org/sierra/199705/fdforthought.html>. 2 p.

city ecology food security and nutrition
home gardening; food security; urban livelihoods

Argues that cities are returning to producing their own food and gives examples of what is already being achieved by urban agriculture inside as well as outside of the USA. (NB)

Remenyi, J. (2000) The contribution that urban agriculture makes to the livelihoods of poor people. In: H. Hoffmann, K. Mathey (eds.). Urban Agriculture and Horticulture, the linkage with Urban Planning. 2000. International Symposium. Berlin July 2000. (on cd-rom).

land use planning food security and nutrition
Bangladesh; livelihoods; poverty; micro-finance; participatory techniques

This paper looks into the contribution that urban agriculture makes to the livelihoods of poor people, especially recent in-migrants from rural areas. The research is based on slum dwellers in Dhaka Bangladesh. The paper reports on work in progress, including the use of participatory techniques for assessing the contribution that urban agriculture makes to employment, income generation and cash flow into poor households in the slum areas of Dhaka. The results are relevant for how poverty programs are designed, and for how urban planning needs to coordinate with micro-finance providers to ensure that the potential contribution of urban planning to poverty reduction is realised.

Research, Development and Consultancy Division (REDEC) (1996). Urban agriculture in Gweru: proceedings of a one-day workshop organized by ENDA - Zimbabwe, Midlands Hotel, Gweru, 16 October 1996. 24 p. Research, Development and Consultancy Division (REDEC), Environment and Development Activities (ENDA) - Zimbabwe, PO Box 3492, Harare, Zimbabwe
food security and nutrition economic impact horticulture
Gweru; Zimbabwe; workshops; home gardening; off-plot cultivation

At this workshop, results of a household survey conducted by ENDA in Gweru in 1996 were presented, looking both at on-plot and off-plot cultivation. A fair number of parameters was discussed and quantified. (WB)

Research, Development and Consultancy Division (REDEC) (1996). Urban agriculture in Zimbabwe: realities and prospects: proceedings of a workshop organised by ETC International and ENDA-Zimbabwe. 36 p. Research, Development and Consultancy Division (REDEC) of Environment and Development Activities (ENDA), Zimbabwe; PO Box 3492, Harare, Zimbabwe; ETC International, PO Box 64, 3830 AB Leusden, The Netherlands
horticulture food security and nutrition
Zimbabwe; urban policies; organisation of producers; socio-economic aspects; environment; health

The four-day workshop of practitioners, researchers and policy makers included stakeholders' perspectives, field visits, and the policy context of urban agriculture and research experiences. From different towns (Harare, Gweru, Mutare) perspectives on urban agriculture were presented. Issues discussed were: organisation of farmers, land tenure, technical support, risks of urban agriculture. Conclusions and recommendations regarding urban agriculture in Zimbabwe are given. (NB)

Riches, Graham (ed.) (1997). First world hunger: food security and welfare politics. London: Macmillan Press Ltd. and New York: St. Martin's Press.
food security and nutrition health and environment
malnutrition; hunger; health; policy

Chapters by resident authors on Australia, Canada, New Zealand, the UK, and the USA, plus introductory and concluding chapters by Graham Riches. A well documented overview of the anomaly of hunger in wealthy countries.(JS)

Riches, Graham (1999). Reaffirming the right to food in Canada: the role of community-based food security. In: For hunger-proof cities: sustainable urban food systems / Mustafa Koc, Rod MacRae, Luc JA Mougeot and Jennifer Welsh (eds), p. 203-207. ISBN 0_88936_882_1. CAD 35.00.

Supplier: International Development Research Centre (IDRC), Publications Department, PO Box 8500, Ottawa, Ontario, Canada K1G 3H9
community development food security and nutrition
food security; food policy; food systems

How is it possible to move from the declarations and rhetoric of world summits, international conventions and governments and their assertions of a right to food when evidence suggests that governments and to some extent civil society have in recent years sought to depoliticize the issue of domestic hunger and make it no longer a responsibility of the state? How is it possible to ensure that the complex and interrelated issues of hunger and food security become the subject of informed democratic debate and thereby publicly understood as being critical not only to the poor and vulnerable but also to long-term ecological and social well-being? The paper examines these questions by asking whether the right to food in Canada exists, addressing the causes of First World hunger, and analysing the responses of federal and provincial governments, businesses, and charities to food poverty in terms of the depoliticization of hunger. It argues that collaborative and adversarial actions at the community level are essential if the right to food is to be established and food security for all is to be achieved. (Abstract adapted from original)

Richter, Juergen; Basler, Alois; Franzen, Hubertus (eds) (1996). Small-scale food processing, contributing to food security: proceedings of the international workshop held from 4 to 8 September 1995 in Bonn-Roettgen, Germany. DOK 1744 A/a. 242 p. ISBN 3_931227_01_4. Deutsche Stiftung fuer Internationale Entwicklung (DSE); Council for Tropical and Subtropical Agricultural Research
food security and nutrition services
food processing; small scale industries; food security

Increased food production alone is not enough to bring about food security. Access and entitlement to food by food-insecure people is crucial. Food security can often only be secured by the urban poor through an increase in income and, hence, purchasing power. Small-scale, decentralised, food processing can be an important income-earner for poor people. The underlying proceedings stress the development of this sector. Gender is an important notion in this, as small-scale food processing is often the domain of women in developing countries. In many cases, access to improved technologies, extension and credit keep them from further developing their business and increase their productivity. This volume underpins a number of project activities to address these issues. (WB)

Robinson, M. (2002) The Right to Food: Achievements and Challenges. United Nations Commission for Human Rights. Paper presented at the International Workshop "Policies Against Hunger", Berlin, May 22-23 2002
food security and nutrition
poverty alleviation; food policy; food security; workshops; access to food

On 17 November 1996 the World Food Summit adopted by consensus the Rome Declaration on World Food Security and the World Food Summit Plan of Action, which outlined ways to achieve universal food security. In the Plan of Action, the

States attending the Rome Summit made a number of commitments.

Significant progress has been made in the implementation of that request, as illustrated in section I of this report. The right to food has been much better defined, and ways to implement and realise it has been proposed. Unfortunately, however, insufficient steps towards implementation have been taken at the national and international levels, and the right to food is therefore far from being realised for all. Section II of the report identifies the main challenges ahead. Section III contains some concluding remarks.

Rosegrant, M.W., M.S. Paisner, S. Meijer and J. Witcover (2001) **2020 Global Food Outlook: Trends, Alternatives and Choices. International Food Policy Research Institute (IFPRI) Food Policy Report, A 2020 Vision for Food, Agriculture and the Environment Initiative Supplier: IFPRI, 2033 K Street, NW Washington, DC 20006-1002 USA**

food security and nutrition health / pollution

food security; poverty alleviation; health and environment; malnutrition

Government officials and representatives of aid agencies are continually making decisions on how to spend their resources. It is easy to lose sight of the fact that each decision to be made represents a fork in the road, and each investment is a step in the direction of a future that will bring a healthy, sustainably produced diet to more people - or to fewer.

This report shows just how and how much certain policy decisions and social changes will affect the world's future food security. It projects the likely food situation in 2020 if the world continues on more or less its present course, and it then shows how alternative choices could produce a different future. Even rather small changes in agriculture and development policies and investments, it turns out, can have wide-reaching effects on the number of poor and undernourished people around the world. A world of less poverty, greater food security and a healthier environment is possible, but it will not come about without explicit policy steps in that direction.

Rosset, Peter; Medea, Benjamin (eds) (1994). **The greening of the revolution: Cuba's experiment with organic agriculture. Ocean Press, Melbourne, Australia: 85 p.**

food security and nutrition horticulture

organic agriculture; bio-intensive horticulture; community-based agriculture; policy; planning; emergency agriculture; Cuba

This is the story of Cuba responding to an economic and health crises with an organic and urban agriculture strategy. It is particularly strong in the area of knowledge systems. It stretches from history, to policy to narrow focus specifics of how it was done. (JS)

Ruel, Marie T et al (1998). **Urban challenges to food nutrition security: a review of**

food security and health in the cities. IFPRI Washington DC, FCND Discussion Paper No. 51, 101 p.

food security and nutrition

food security; health; nutrition; urbanisation

This is a review of recent literature explores the face of urban food insecurity in an integrated and comprehensive manner. It asserts that no developing country can afford to ignore the shift in the locus of poverty from the village to the city. It presents the problems of malnutrition from nine points of view: (i) urban agriculture, (ii) source of food, (iii) cost of food, (iv) income, (v) urban diet, (vi) child care, (vii) health, (viii) environment, and (ix) safety nets. It concludes with a definition of issues and knowledge gaps for future research. (JS from authors)

Ruel, Marie T; Levin, Carol (2000). Assessing the potential for food-based strategies to reduce vitamin A & iron deficiencies. IFPRI, FCND Discussion Paper # 94 PP 53, 11 pp. references, 2 tables, Washington

health and environment

food security and nutrition

nutrition; micronutrients; malnutrition; health

This paper reviews ten recent projects and library sources regarding food-based strategies to improve vitamin A and iron intake in the diet. It discusses some of the lessons learned and the knowledge gaps. It sets research priorities. Food-based strategies are often described as sustainable because they empower individuals, households, and communities to take responsibility over the quality of their diet through production of nutrient rich foods and informed eating choice. It concludes that the area of food-based interventions has been increasingly active and successful over the past decade. The design and implementation of these strategies have significantly improved. This work is largely driven by NGOs and local institutions. The study concentrates on home gardens (six of ten cases cited). These strategies are particularly well fit to urban agriculture and agriculture for refugees and displaced persons. (JS)

Sawio, Camillus J (1993). Feeding the urban masses: towards an understanding of the dynamics of urban agriculture and land use change in Dar es Salaam, Tanzania. 71 p. International Development Research Center (IDRC), PO Box 62084, Nairobi, Kenya; Clark University, Worcester, MA, USA.

food security and nutrition

R&D methodology

Tanzania; food security; food supply; income generation; land use; open spaces; land tenure

This is one of the first – and most important – among the wave of doctoral and Masters thesis focussed explicitly on urban agriculture, which emerged over the past decade in universities scattered across the globe. The first three chapters introduce the food shortage situation in Dar es Salaam, the importance of studying urban agriculture (a fairly new concept at the time), and the conceptual framework for evaluating urban agriculture's role. The fourth chapter paints a picture of the changes in agricultural land use in the Dar area since the mid-1960s. The next four

chapters – the dissertation's core provide the results of a survey undertaken, focussing in turn on urban farmers, urban farms and urban farming practices. The final chapter offers a typology of impediments to urban agriculture in Dar. (JN)

Scharf, Kathryn (1999). A nonprofit system for fresh-produce distribution: the case of Toronto, Canada. In: For hunger-proof cities: sustainable urban food systems / Mustafa Koc, Rod MacRae, Luc JA Mougeot and Jennifer Welsh (eds), p. 122-127. ISBN 0_88936_882_1. CAD 35.00.

Supplier: International Development Research Centre (IDRC), Publications Department, PO Box 8500, Ottawa, Ontario, Canada K1G 3H9

services community development food security and nutrition
food distribution; access to food; Canada; Toronto

The Good Food Box (GFB) project of FoodShare Toronto is a nonprofit fresh-food-distribution system that operates like a large buying cooperative: 4 000 boxes of fresh fruit and vegetables are delivered through 200 volunteer-run neighbourhood drop-offs each month. The GFB is a successful continuity-based and market-driven food-distribution alternative. The similarities and divergences from traditional community-development or nonprofit-sector projects are explored, as "business principles" needed to be incorporated to ensure its success in the marketplace. Stimulating community self-organization, improving food access for low-income people, promoting healthy food choices, and avoiding the stigmatisation involved in charity-based models of food distribution are all goals of the GFB. As a free-based service, the GFB must compete effectively, meaning that it must maintain a high level of customer service, a high level of sales, a fairly low level of mandatory time investment from participants, and attractive advertising - characteristics which it are not often seen in non-profit community-development projects. (Abstract adapted from original)

Schnitzler, Wilfried H (et al.) (1999). City harvests: the case of Cagayan de Oro City (Philippines). Urban and periurban small and medium-sized enterprise development for sustainable vegetable production and marketing systems: a project of the European Commission (no. IC18-CT97-0184). 44 p.

R&D methodology food security and nutrition
Philippines; interviews; surveys

Describes results of a study on agriculture activities in Cagayan de Oro; Philippines. Elements were: (1) the analysis of baseline survey data on periurban vegetable consumption, farming and marketing conducted by the Periurban Vegetable Project; (2) the exploration of existing data pertaining to urban agriculture from various sources; and (3) in-depth interviews with key informants. provides a wealth of information. Also published as a chapter in the 'reader' 'Growing Cities, Growing Food'. (WB)

Scott, GJ et al (2000). Roots and tubers for the 21st Century: trends, and policy

options, IFPRI Washington 64 pages, 26 tables, 6 diagrams, 3 cases, references

food security and nutrition

policy; roots & tubers

Continued high rates of population growth and urbanization are projected to increase demand for roots and tubers above the overall trend for food, particularly cereals. Per capita consumption rises as per capita income rises. And urban populations are increasing their consumption of roots and tubers, other than cassava. Research is rapidly increasing yields per unit of space and inputs. Many of the world's most undernourished households depend on roots and tubers as a contributing, if not principle, source of food and nutrition. The leaves of roots and tubers are consumed during the growth cycle. Small farmers, particularly periurban, produce most of the potatoes in Asia and Africa. (JS)

Seck, PA. L'agriculture périurbaine dakaroise: les enjeux de son suivi. Agriculture périurbaine en Afrique subsaharienne, p. 141-147

food security and nutrition

Senegal; food supply; periurban agriculture; stakeholders' organisation

The food situation in Dakar has deteriorated over the past ten years. The areas supplying Dakar are more and more remote and transport cost make up more than half of the marketing costs of horticultural and animal products. Moreover imports of agricultural produce is increasing. It is therefore crucial to enhance the role of periurban agriculture in supplying Dakar. To enable producers to target the Dakar market more effectively and provide them with a long term perspective it is important their activities fit in the framework of private stakeholder organisations with the capacity to negotiate with political authorities. There is a clear will to set up such organisations, however there is none specifically concentrating on periurban activities. However easily accessible and reliable information which would facilitate the proper functioning of such body is currently lacking. (NB - abstract adapted from original)

Selvester, Kerry; Fidalgo, Lourdes (1996). Situacao alimentar e nutricional nas zonas urbanas de Mocambique: pesquisa de literature. 38 p.

food security and nutrition

food security; methodologies; nutrition; Mozambique

Contains three parts: (1) an annotated bibliography with three main sections: demography and physical planning, socio-economic aspects, health and nutrition and lastly poverty; (2) a summary report on the food and nutritional situation in the urban zones of Mozambique which presents among others the basic economic and labour data, sources of food, survival strategies and food habits; and (3) a methodology for the development of urban profiles for food and nutrition security. The methodology is elaborated from urban food security concepts and then discusses available information and gaps, key questions, adaptation of district

profiles to the urban situation and future steps. (NB)

Silva, M.L. (2002) The Contribution of the Expert Consultations on the Right to Adequate Food to the Implementation of the Right. UNHCHR. Paper presented at the International Workshop "Policies Against Hunger", Berlin, May 22-23 2002

food security and nutrition

action plan; food policy; food security; access to food; workshops

The paper starts by summarising the objectives, conclusions and recommendations of the three expert consultations held to the right to food, emphasising those which are particularly relevant to progress in the implementation of the right to adequate food. There are also some remarks made, which are based on the conclusions of the expert consultations, which could guide the elaboration of a Code of Conduct on the right to adequate food.

Skinner, G. William (1981). Vegetable supply and marketing in Chinese cities. In: Vegetable Farming Systems in China / D.L. Plucknett and H.L. Beemer, Jr. (eds). Boulder, Colo.: Westview Press, 86 p.

food security and nutrition horticulture

food security; city planning; China; metropolitan area; periurban agriculture; waste management; livestock

This is a breakthrough study of the potential of large cities to be significantly nutritionally self-reliant in the areas of micronutrients and protein. The survey included the 15 largest cities in China, and found them to be 85 percent self-sufficient in vegetables. All aspects of the urban food security issue are examined including: (I) production methods, (ii) marketing, (iii) policy, (iv) locus (inner, suburb and peri), (v) organization (government and civic, (vi) health, (vii) waste management, (viii) land use management and more. Comparisons amongst cities are well presented. (JS)

Smit, Vaclav (2000). Feeding the world: a challenge for the twenty-first century. IT Press Cambridge Massachusetts; 230 p.

food security and nutrition

food scarcity; nutrition; resources; agroecosystems; biodiversity; pollution; climate change; fertiliser; water; precision farming; aquaculture; livestock; China

This book addresses the question of how best we can feed the ten billion or so people who will likely inhabit the Earth by 2050. It focuses on the complete food cycle from agriculture to eating and discarding. The outlook is constructively optimistic. A good general source. (JS)

Smit, Jac (1993). Grow food cheaply by the roadside. Developing Countries Farm Radio Network package no. 29 script 8. 5 p. Developing Countries Farm Radio Network, 40 Dundas Street West, Box 12, Suite 227B, Toronto, Ontario, Canada

M5G 2C2

food security and nutrition horticulture
roadside cultivation; home gardening; vacant lands

A radio script for dissemination in a large number of developing countries, explaining how even the landless can farm using vacant land along road sides for food production or as a grazing area for their animals. Interestingly, there are some unexpected advantages to be found in roadside farming: it is easier for bringing inputs to the garden or for delivering products, even selling them along the roadside. Obviously, much of the farmers' worry concerns the many thefts, which farmers often avoid by harvesting their crops before they are completely ripe. Protecting oneself against theft eminently lends itself to group initiatives, where all farmers take turns in guarding the area. The author also gives hints at how to get the water necessary for gardening. There is a special paragraph on the hazards of lead poisoning, as a result of exhaust fumes settling on the crops. Fruiting plants or root crops are, in this context, generally safer to grow than leafy vegetables. Full of practical information, and presented clearly. (WB)

Smit, Jac (1995). Food for the poor: urban and rural vegetable production. In: Development & Cooperation no. 5 (1995) p. 22-23

food security and nutrition horticulture
vegetable production; deficiency diseases; horticulture; periurban agriculture; small- and medium-sized enterprises; food security; nutrition

Describes small-scale vegetable production in Africa and Latin America, both in urban and in rural settings, and its contribution to food security and in fighting deficiency-related diseases. (WB)

Smith, Frank (1977). Food in the city. Conference Report. Washington, D.C.: Public Resource Center. 68 p.

food security and nutrition
food systems; nutrition; community-based organisations; cooperatives; pollution

Ten papers in this five-part report cover: (i) alternative food systems, (ii) food quality; food cooperatives; (iv) soil and air pollution and (v) urban gardening. Its strength lies in its combining, the point of view of low-income African-Americans, and an ambitious "Program for the Cities". Public policy and best practice are well presented. A good benchmark report edited by an elected politician. (JS)

Smith, Olanrewaju B (1999). Agriculture urbaine en Afrique de l'Ouest: une contribution à la sécurité alimentaire et à l'assainissement des villes = Urban agriculture in West Africa: contributing to food security and urban sanitation. 240 p. ISBN 0_88936_890_2. CAD 30.00. International Development Research Center (IDRC), PO Box 8500, Ottawa, Ontario, Canada K1G 3H9; Technical Centre for Agricultural and Rural Cooperation (CTA), PO Box 380, 6700 AJ

Wageningen, The Netherlands

Supplier: International Development Research Centre (IDRC), Publications Department, PO Box 8500, Ottawa, Ontario, Canada K1G 3H9

food security and nutrition health and environment

food security; ecological aspects; economic aspects; rural-urban interaction;
research methodology

Seven case studies and research papers plus reports of working groups and plenary sessions of the workshop are presented covering the following themes: policy environment, rural urban interaction, food security, urban waste management and networking in urban agriculture. Case studies on Mali, Burkina Faso, Senegal, Togo, and Benin were presented. Opportunities and constraints of the UA sector contributions to urban food security and sanitation are analysed. (NB)

SODEM (1990). Curso de huertos familiares. La Paz, Bolivia: SODEM. 20 p.

horticulture food security and nutrition services

training; home gardening; Bolivia

This binder contains a collection of Spanish-language training material on home gardening. It is intended for trainers rather than gardeners themselves. (JN)

Tadros, HR; Feteeha, M; Hibbard, A (1987). Squatter produce market vendors in Egypt. Cairo: Social Research Centre, American University in Cairo

services food security and nutrition R&D methodology

Egypt; street vendors; marketing; food supply; food distribution

This document presents the results of a study (83-0056) carried out with support from the International Development Research Centre (IDRC) in 18 squatter markets in different districts in Cairo. The methodology involved direct observation, surveys, and interviews with government officials and 192 vendors. Commodities available through these vendors included vegetables and fruit; meats; prepared and processed foods and beverages; nonfood products; and services. The researchers noted business hours, environmental problems, characteristics of vendors, reasons for entering the vending business, and the role of the market "Sheik" or informal leader. Data was also collected on vendors' Suppliers and customers; the effect of vending on other marketing systems; vendors' relationship to the government; and attitudes of government officials and authorities toward vendors. The findings indicated that markets were relatively stable operations, generated jobs, and were well integrated into the city's social structure. The recommendations called for up-to-date statistics on squatter markets, better cooperation between vendors and authorities, and improvements to the market organization. (HC, IDRC)

Talukder A., Pee, S. de, Taher, A., Hall, A., Moench-Pfanner, R., Bloem, M.W. (2001) Improving food and nutrition security through homestead gardening in rural, urban and periurban areas in Bangladesh. Paper for the workshop

"Appropriate Methodologies for Urban Agriculture", October 2001, Nairobi, Kenya. Proceedings, available On: www.ruaf.org. A shortened version is taken up In: *Urban Agriculture Magazine*, no 5, Appropriate Methodologies for Urban Agriculture, December 2001, RUAF, Leusden The Netherlands.

R&D Methodology food security and nutrition

Bangladesh; home gardening; gender; children

Malnutrition is a serious public health problem in Bangladesh, and can have serious impacts on the population as malnutrition retards child growth, increases the risk and duration of illness, reduces work output, and slows social and mental development. Improving nutritional status, including micronutrient status, can lead to increased productivity, increased child survival and growth, and reduced maternal morbidity and mortality. Interventions for improving nutrition can address deficiencies of specific nutrients. However, when the goal is to address deficiencies of more nutrients simultaneously and to target the population throughout the lifecycle interventions such as dietary diversification are more appropriate. Homestead gardening activities are centered on women because they are usually the ones who take care of the homestead garden. These activities empower the women and can increase their income. This combination of empowerment and increased income can result in better use of household resources and improved caring practices. Therefore, homestead food production also addresses a priority area of poverty alleviation and overall development of communities. This article describes the important characteristics of HKI's Homestead Gardening Program in Bangladesh (1990-2001) as well as how it is being monitored and evaluated.

Technical Centre for Agricultural and Rural Cooperation (CTA) (1999). Urban agriculture and food security: take your farm to town! In: Spore no. 81 (1999) p. 1-2. Technical Centre for Agricultural and Rural Cooperation (CTA), PO Box 380, 6700 AJ Wageningen, The Netherlands

food security and nutrition

Africa-Caribbean-Pacific countries

Overview article of possibilities and constraints for urban agriculture in Africa - Caribbean - Pacific (ACP) countries. The background article to the conference on urban agriculture in Havana, October 1999. (WB)

Te Lintelo, D., F. Marshall and D.S. Buphal Peri-Urban Agriculture Imperial College of Science, Technology and Medicine, London / Agricultural Economics Research Centre, Delhi University In: Food, Nutrition and Agriculture, no. 29, 2001, pp. 4-13. Supplier: Food and Nutrition Division, FAO, Viale delle Terme di Caracalla, 00100 Rome, Italy

food security and nutrition

urban food security; urbanisation; urban agriculture; periurban agriculture; India;

Rapid urbanization and a progressive shift from rural to urban poverty have important consequences for urban food security. Worldwide studies have shown that urban and peri-urban agriculture (UPA) may be able to make positive contributions as a local supplier of food to cities and can provide poor households with fresh food,

income and employment. However, while generally the interest of international development research and funding agencies in urban and peri-urban agriculture is increasing, very little work has been carried out in India. Accordingly, this article provides a preliminary assessment of the nature, extent and importance of UPA in Delhi. It is shown that UPA is not only a significant and dynamic land use for poor people (particularly landless and farmers with small landholdings) living in urban and peri-urban areas in India, it is also a very important livelihood strategy, providing families with employment, income and food. And although geographical locations may shift over time, the phenomenon of UPA will remain. Nevertheless, UPA is rarely recognized by

research and policy communities in India and hence raising awareness about its significance is a major challenge.

Considering the agroclimatic, socio-economic and cultural heterogeneity of India, more case-study research will need to be carried out in various cities of different sizes. Further research should aim at integrating an assessment of the nature, significance of and constraints to UPU agriculture with an analysis of actual research and policy-support mechanisms.

Teubner, W. and Zeeuw, Henk de (2002) **Green and Productive Cities: A Policy Brief on Urban Agriculture**. ICLEI, Germany / ETC, Netherlands 39 p. plus cd-rom.

food security and nutrition

poverty alleviation; nutrition; urban agriculture; food security; policy; policy development; urban policies; urban planning; urban development; Europe (Eastern); Europe (Western)

This paper deals with the potentials of agriculture in and around cities for urban food security and nutrition, alleviation of urban poverty and improvement of the urban ecology, as well the associated risks for public health and environment. Basic information on presence and impacts of urban and peri-urban agriculture is provided and guidelines for the integration of urban agriculture in urban policies and development planning are presented. The focus is on cities of countries of Central and Eastern Europe and we expect that the paper is of special use for city authorities, urban planners and senior staff of sectoral departments, especially within the health sector, organisations, and NGOs contributing to sustainable and equitable urban development. It is expected that this policy brief will en

hance the awareness among policymakers and senior technical staff of the contributions urban agriculture can make to the urban policy agenda and to facilitate the integration of urban agriculture in urban policies, development and action programmes.

Thrupp, Lori A (ed.) (1998). **Cultivating diversity: agrobiodiversity and food security**. World Resources Institute. 64 p.

city ecology food security and nutrition

biodiversity; policy; integrated pest management; organic agriculture; stakeholders

The argument is made that biodiversity is a fundamental factor for agricultural

production, food security and ecological stability on planet Earth. Further the case is made that agricultural growth and biodiversity are not always conflicting goals. Evidence is presented to show the multiple benefits of integrating biodiversity into agriculture for both small and large-scale farming. Agricultural biodiversity is presented as lying within the general framework of sustainable human development and settlements. Recommendations include: (i) support sustainable ecological agriculture, (ii) develop and ecosystems approach, (iii) empower farmers and communities to protect their right to resources, (iv) adapt agricultural practices and land use to local agroecological conditions, (v) conserve and regenerate plant and animal genetic resources, (vi) adopt policies and establish institutional changes that support agro-biodiversity and (vii) uphold both the convention on biological diversity and the mandates of the World Food Summit. (JS)

Tinker, Irene (1997). Street foods: urban food and employment in developing countries. Oxford University Press, New York. 243 p.

food security and nutrition R&D methodology gender
poverty; gender; safe food; informal sector; street food

This book presents the first empirical study of sellers of foods on urban streets. It recounts the efforts of an action-research project to improve the income of street food vendors and the safety of the food they sell in the Philippines, Thailand, Indonesia, Bangladesh, Egypt, Nigeria and Senegal. Details of the street food trade provide robust comparative data on the vendors and the informal sector. The study includes an analysis of income and gender. The Book is thorough in its analysis of what is urban and how street food functions as a system interfaced with other urban systems, in a variety of economies and cultures. Street food is found to be an essential link in the informal economic sector, nutrition and urban agriculture. (JS)

Tricaud, Pierre-Marie (1987). Urban agriculture in Ibadan and Freetown. 45 p. The Food Nexus Programme, The United Nations University, Toho Seimei Building, 15-1, Shibuya 2-chome, Shibuya-ku, Tokyo 150, Japan

horticulture food security and nutrition
case studies; Nigeria; Ibadan; Sierra Leone; Freetown; land tenure; urban management; forestry; livestock

This report presents urban agriculture in Nigeria and Sierra Leone. It identifies the extent of the practice, the urban farmers, the role of agriculture in the urban ambiance and the methods of cultivation. There are many similarities between two case study cities, Freetown and Ibadan, both being capitals of anglophone countries, with a similar climate and historical background. However, there are also a number of differences, Freetown being a coastal city while Ibadan is located inland. The two cities have developed in a different manner: while Ibadan grew from 600,000 to 2,500,000, Freetown simply doubled its population to 400,000. This report describes the situation with regard to land and land tenure systems in both cities. Information is given about origin and composition of city gardeners. There is a difference in the type of crops cultivated in the two cities. In Ibadan, urban farmers mostly cultivate

staple food, whereas in Freetown the interest for vegetable cash crops is prevalent, due to differences in consumer habits. Actions are suggested for developing urban agriculture including land policies, composting programmes and organising the gardeners. (WB)

UNICEF (1984). Urban examples for basic services development in cities. UNICEF Newsletter no. UE-9. UNICEF

services food security and nutrition

community gardens; home gardening; multi-sector approach; food production; market gardening

An early UN document on examples of programmes to improve or expand city food production. Seven examples from Latin America, Asia and Africa are presented. Topics range from community gardens, to comprehensive city wide food and fuel self-reliance to centrally planned systems of suburban food production and market gardening. The examples are organised around a basic facts sheet and a project summary. (NB)

Wade, Isabel Mary (1986). City food: crop selection in Third World cities. San Francisco: Urban Resources Systems, 1986. 54 p.

food security and nutrition

crop selection; intensive production techniques; nutrition; climate

This report has been designed for project organizers in developing countries to implement or assist urban agriculture projects. It categorizes the suitability and characteristics of different crops to cities of developing countries according to nutritional content, and space and climatic requirements. (JN)

Wade, Isabel Mary (1986). Food, transport and zoning. In: Development: seeds of change vol. 1986 no. 4 p. 30-34

services food security and nutrition land use planning

food security; selfreliance; urban planning

A systems approach to food self-reliance. This early publication on urban agriculture examines the question to what extent self-reliance efforts in city farming can be incorporated in long-term food policy. As is shown, the role played by land use planning, or zoning, is pivotal in developing an effective food policy strategy. The article compares various not only zoning strategies within the city bounds, but also different periurban zoning options, in recognition of the traditional important of periurban agriculture in supplying food to cities. (WB)

Wade, Isabel Mary (1986). Planning for basic food needs in Third World cities. Ph.D. dissertation, University of California, Berkeley. 252 p.

food security and nutrition

ecosystems; urban planning; food systems; selfreliance; system theory

This dissertation examines a specific problem in environmental planning: how can cities in developing countries plan to meet the basic food and nutritional needs of their residents? The author examines the question within the conceptual framework of urban ecosystem theory, to construct a planning process that can be used by community planners in designing and implementing urban agriculture strategies. The first part of the dissertation examines the sociopolitical and economic questions that affect the planning of comprehensive urban food strategies. The second half of the dissertation reviews the principal technical considerations likely to be required in the design of effective urban food production programs. This is one of the first substantial studies to examine urban agriculture, and to define it as an issue for planners. (adapted from original by JN)

Webster, Jacqui; Lang, Tim (1998). Food poverty: what are the policy options? 43 p. ISBN 1_900_670_13_5. National Food Alliance / Food Poverty Network, 94 White Lion Street, London, N1 9PF, UK

food security and nutrition

food security; political aspects

This discussion paper outlines the policy recommendations on food poverty offered by a loose coalition of voluntary groups, researchers and academics through the National Food Alliance (NFA). The paper develops a framework for the debate about the policy options from individual and local approaches to national and global policies. The framework on policy options lists the main problems relating to food poverty alongside various options available for addressing the problems: (1) Poverty and Inequality; (2) Shopping; (3) Eating In; (4) Eating Out; (5) Education and Training; (6) Farming; (7) Community Support; and (8) Policy Framework. The framework includes problem definitions, options, relevant organisations and responsible authorities. (NB)

Whyte, A; Mackenzie, F (1999). Cities Feeding People: a review of the CFP program initiative of IDRC. Ottawa: IDRC

R&D methodology food security and nutrition economic impact

development programmes; project impact; impact assessment

The reviewers examined the implementation of the objectives set in the International Development Research Centre (IDRC)'s Cities Feeding People program initiative: prospectus 1997-2000, as evidenced in the following five projects: Urban agriculture in Dar es Salaam (93-0037); Socioeconomic and ecological impacts of urban agriculture in Harare (95-0007); Urban horticultural technologies in Port-au-Prince (96-0035); International research awards in urban agriculture (97-0026); and wastewater treatment using water lettuce in Dakar (98-0214). The reviewers agree that CFP has been effective in raising awareness of urban agriculture among international organizations, donors, and national and urban governments; knowledge creation; publication and dissemination; and training. They note that it needs to better integrate gender and social relations into its conceptual framework and to

make the political economy of conflict more integral and explicit in that framework.

The reviewers also looked at the question of whether adequate recognition of urban agriculture has been achieved and whether CFP should move on to more strategic issues. They conclude that it would be premature to move on, as the battle has yet to be won on three fronts: in the cities, which may have the will but not the tools to move from attitude change to policy change; within the research community, which has difficulty attracting practitioners in urban agriculture due to its inherently multidisciplinary nature; and within the international donor community, where urban agriculture is not central to any agency's mandate and therefore vulnerable in all. (HC, IDRC)

Williams, Meryl (1999). The transition in the contribution of living aquatic resources to food security. IFPRI Washington D.C. 41 p.

food security and nutrition
aquaculture; fish; biodiversity

A profound and dramatic change is occurring in the living aquatic resource systems of the planet Earth. This volume focuses on the research needs to steer the transition, including urban-based fish and aquatic crop production. The data and charts are particularly useful. (JS)

Wilson, Geoff (ed.) Urban agriculture and microfarming: growing food in small places. The Urban Agriculture Network Western Pacific (TUAN), PO Box 2223, Mansfield, Queensland 4122, Australia

food security and nutrition horticulture hydroponics
urban food; Singapore

The first issue of the magazine published by The Urban Agriculture Network Western Pacific (TUAN). This issue is a free insert in 'Practical Hydroponics and Greenhouses' with a global circulation of 12,500 six times a year. It remains unclear whether the magazine by TUAN will be published with the same frequency. From its look, the magazine primarily addresses those who practice, or are interested to start, agriculture in a confined urban space, with a clear business orientation. The first issue features Singapore for having a well advanced urban agriculture within its city limits.

World Bank (1998). Feeding the city. Urban age: the global city magazine / Bergen, Margaret (ed.) Vol. 5 no. 3 (winter 1998)
Supplier: The International Bank for Reconstruction and Development, the World Bank, 1818 H Street, NW Washington DC 20433, USA

food security and nutrition
food security; urban poor; case studies

One entire issue of Urban Age dedicated to food security and which contribution urban agriculture can make. A number of articles examine underlying causes to food

scarcity, in the light of rapid urban growth. Rather than to continue relying on -once cheap- food imports, governments are increasingly looking at ways in which to increase domestic production and distribution. Cities are now acknowledged to play an important role in this. A number of case studies are presented to highlight this. (WB)

World Bank? (199?). Urban agriculture: the big, unknown, polluting, and mobile compliment to rural agriculture, so very important for the urban poor.

Agriculture technology notes. 4 p. World Bank?

food security and nutrition health and environment

urban agriculture typology

A general overview of types of urban agriculture. Figures given and descriptions in the typology of urban agriculture are useful. (WB)

FAO / World food summit: draft Rome declaration on world food security / draft plan of action (1996). 6 p.

food security and nutrition R&D methodology

food security; policy making; international conferences

The draft version of the Rome Declaration on World Food Security and the draft Plan of Action, the outcome of the World Food Security Conference held at Rome, November 1996. (WB)

World Commission on Environment and Development (WCED) (1985). Official minutes of the Commission's fourth meeting held in Sao Paulo, 25 October - 4 November 1985. Geneva: WCED. Volume 41

economic impact food security and nutrition

policy development; economic development; sustainable development

The Brazilian meeting took place half-way through the Commission's life. Priority issues to be dealt with were the outline of the official final report, two alternative versions of which were put before the Commission for its consideration, and the preliminary outline of the popular final report. Additional discussions focused on international economic relations, environment and development; food security, agriculture, forestry, environment and development - tropical forests; human settlements, environment and development; and international cooperation - legal principles for environmental protection and sustainable development and resolving environmental disputes. Some 15 annexes include the background documents used in the discussions. Annexes include the following: list of participants, press seminar, opening address, list of submissions, agenda, progress report, preliminary and alternative outlines of the official report, revised alternative version of official final report, outline of final popular report, and background documents pertaining to the discussions. (HC, IDRC)

World Health Organization (WHO) (1998). A sustainable food supply chain: the possibilities and limitations of implementing the factor 4 strategy on the production and consumption of food. 55 p. World Health Organisation (WHO), Regional Office for Europe, Scherfigsvej 8, 2100 Copenhagen, Denmark

food security and nutrition

food supply; food systems; eco-efficiency; energy consumption; nitrogen; phosphorus; consumer behaviour

The paper explores the strategy to use material and energy 4 times more efficiently. The 'factor 4' concept is regarded as an important strategy for achieving sustainable development in the food supply chain. Twenty percent of energy consumption in Sweden goes towards supplying food. The paper analyses energy use in the food supply chain per sector: agriculture, food industry, trade and transport sector and households. Examples are given on: foodstuffs produced locally vs. imported, changes in phosphorus and nitrogen cycles. From there, visions for the future food supply chain and strategies how to get there are discussed. The paper concludes that radical eco-efficiency is possible. The approach should, however, also be linked to strategies for emission reduction as well as to environmental, health and sustainability (WB)

World Health Organization (WHO) (1995). Highlights of recent activities in the context of the world declaration and plan of action for nutrition. WHO/NUT/95.2. Nutrition Programme, World Health Organization, Geneva

food security and nutrition health and environment

food security; political aspects

Contains a short description of the World Declaration and Plan of Action for Nutrition, the outcome of the International Conference on Nutrition (ICN) organised by FAO and WHO in 1992. The nine decade goals and nine action-oriented strategies of the World Declaration and Plan of Action for Nutrition are summarised in this document. (WB)

World Health Organization (WHO) (1998). Draft urban food and nutrition action plan: elements for local action or local production for local consumption. 26 p. Programme for Nutrition Policy, Infant Feeding and Food Security, World Health Organisation (WHO), Regional Office for Europe, Scherfigsvej 8, 2100 Copenhagen, Denmark

food security and nutrition

Europe; action plan; policy development; food consumption; public health

Proposes an action plan for increasing production, access and consumption of vegetables and fruit in the EU and CEE. A number of project interventions to reach this goal is discussed. (WB)

Yasmeen, G. (2000) Feeding Asian Cities - Proceedings of the FAO-CityNet-AFMA

regional seminar, Bangkok, Thailand, November 27-30, 2000. FAO / CityNet / AFMA

food security and nutrition rural-urban linkages

Asia (Western incl. Middle East); Asia (South-Eastern); Asia (South-Eastern); Asia (Eastern) urban agriculture; food security; food production; urban areas; periurban areas; rural areas;

Asian cities have been growing rapidly with urban poverty creating increased food insecurity. These proceedings of the FAO-CityNet-AFMA regional seminar "Feeding Asian Cities" held in Bangkok in November 2000, review issues related to food production in urban, periurban and rural areas, rural-urban linkages, processing as well as wholesale and retail activities and suggest possible directions for remedial action. The role of City and local authorities and the importance of North-South and South-South cooperation are given particular attention. These proceedings are meant for decision-makers, planners as well as researchers concerned with urban development, urban poverty and the enhancement of urban food security.

Yasmeen, G. (2001) Workers in the Urban 'Informal' Food Sector: Innovative Organizing Strategies. University of British Columbia, Vancouver. In: Food, Nutrition and Agriculture, no. 29, 2001, pp. 32-43. Food and Nutrition Division, FAO, Viale delle Terme di Caracalla, 00100 Rome, Italy

food security and nutrition

Thailand; Philippines; India; informal sector; food production; street vendors

Creating strong membership-based organizations for informal food sector (IFS) workers is key to improving their ability to lobby municipal authorities in order to promote the interests of this sector. Strategies that organize the IFS result in enhanced social capital, which facilitates access to financing, training resources and (most important in the case of rapidly growing cities) secure tenure of good selling spaces. In this article, the IFS is defined and its importance outlined, and examples of innovative organizing strategies

developed by IFS workers and microentrepreneurs are described: these include widely known and welldocumented cases in India and elsewhere as well as other, lesser known, cases in the Philippines and

Thailand for which the author draws on her own empirical research.

In the Philippines, members of the umbrella organization Cebu City United Vendors' Association have registered their associations with the Securities and Exchange Commission and have engaged in proactive dialogue with the city's mayor and municipal administration. In Bangkok, a progressive urban policy towards street food vending has been in place since 1994, granting a number of vendors more secure access to urban space. Despite these progressive municipal policies, IFS microentrepreneurs in many parts of Bangkok remain in need of the types of organization found in CEBU and

the examples profiled in India and other countries. More cooperation among nascent IFS organizations is needed to facilitate networking and, in turn, local institutional strengthening. Strong membership-based organizations can lead to IFS workers being valued by society, recognized by the state at various levels, supported through

financing and training, and involved in making the decisions that affect their lives.

Yeung, Yue-man (1986). Urban agriculture in Asia. In: Development: seeds of change vol. (1986) no. 4 p. 27-28. Centre for Contemporary Asian Studies, Chinese University of Hong Kong

food security and nutrition

food security; selfreliance; urban communities; Asia

An overview article about the disappearance of urban fringe land around cities in Southeast Asia and its consequences for the food situation in these cities. Figures are given about production patterns. (WB)

Zalle, Dieudonné (1999). Les stratégies politiques pour l'agriculture urbaine: rôle et responsabilité des autorités communales: le cas du Mali. In: Agriculture urbaine en Afrique de l'Ouest: une contribution à la sécurité alimentaire et à l'assainissement des villes = Urban agriculture in West Africa: contributing to food security and urban sanitation / Olanrewaju B. Smith (ed.), p. 1-18. 18 p. Institut Supérieur de Formation et de Recherche Appliquée du Mali

food security and nutrition economic impact

policy environment; economic aspects; Mali

The increase of fruit and vegetable consumption might be linked to the process of urban development, and the evolution of nutritional habits. Vegetables produced for sale play an important role in the economy of the urban family. Land tenure problems pose a big threat for the development of the sector, other constraints relate to human resources and lack of communication between stakeholders. (NB)

Zeeuw, Henk de (2002) Policy Measures to Facilitate Urban Agriculture and Enhance Urban Food Security. ETC-RUAF In: Special Edition *Urban Agriculture Magazine: World Food Summit, Five Years Later*, RUAF,pp. 10-12, 2002.

food security and nutrition

food systems; urban areas; food security; food production; periurban areas

Analyses of current trends regarding urban food systems reveal that, in order to achieve food security for the urban poor, a sole reliance on food produced in rural areas and imported food is insufficient. It is necessary for cities to develop plans to enhance urban and peri-urban food production, and to diversify away from the present reliance on the highly capitalised and energy-consuming "supermarket" model, based on the external supply of food-stuffs.

Zurick, David N (1983). Food production in the urban environment of Katmandu, Nepal. Unpublished. Honolulu: University of Hawaii; 28 p.

horticulture food security and nutrition

Nepal; land use; household economy; planning; organisation; history; land tenure; water; livestock; consumption; ecology

This study is quite comprehensive and based on grassroots observation as well as

Food security and nutrition

library research. It is found that urban agriculture is an important economic activity in the Katmandu metropolitan area, and in need of policy and programmatic support.
(JS)