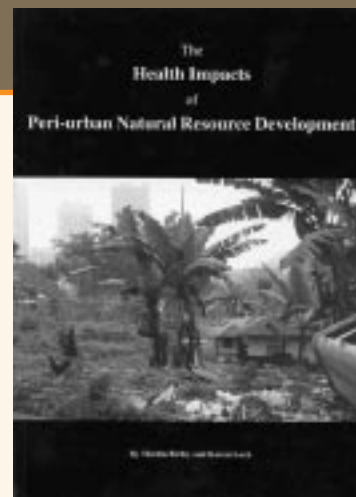


FURTHER READINGS ON HEALTH AND URBAN AGRICULTURE



REUSE OF WASTE FOR FOOD PRODUCTION IN ASIAN CITIES

Furedy C, Maclaren V & Whitney J. 1999. In: Koc M, MacRae R, Mougeot L & Welsh J (eds). *For Hunger Proof Cities; Sustainable Urban Food Systems* (Ottawa: International Development Research Centre), 136-144. Asian communities have many practices involving the re-use of organic wastes in agriculture and aquaculture, even in urban areas. This paper discusses the health and economic aspects of the re-use of municipal waste in South and Southeast Asia. Recent research carried out in Bangkok, Bandung, Bangalore, Hanoi, Ho Chi Minh City, Jakarta, and Manila is used to suggest the potential for linking organic waste re-use and urban agriculture and aquaculture. Important constraints to the re-use of organic waste are its contamination and the greater cost of making compost, compared to chemical fertilisers. The paper suggests strategies for minimising these constraints and improving the marketability of organic wastes. Contamination can be reduced by collecting waste separately and by separating organics at source. Market research is needed to promote the use of compost. Health risks can be reduced through education and the amendment of agricultural practices. (abstract adapted from original)

THE COMPOSTING TOILET SYSTEM BOOK. A PRACTICAL GUIDE TO CHOOSING, PLANNING AND MAINTAINING COMPOSTING TOILET SYSTEMS: AN ALTERNATIVE TO SEWER AND SEPTIC SYSTEMS.

Del Porto D & Steinfeld C. 1999. *The Center for Ecological Pollution Prevention (CEPP)*, 240 pages. A number of wastewater management methods are given here, that may be viable and cost-saving alternatives to graywater disposal systems. The central theme deals with the design of a composting toilet, also known as a dry, waterless or biological toilet. Composting toilets are not only an alternative in places where septic tanks cannot be installed but they are also one of the most direct ways to avoid pollution and conserve water and resources. A very complete manual, full of practical information. The manual contains a useful glossary and a list of American state regulations. In spite of its apparent USA-focus, the content applies equally well to developing countries. (Wietse Bruinsma, WB)

HEAVY METAL POLLUTION IN SOILS IN CHINA: STATUS AND COUNTERMEASURES

Huamain Chen, Chungrong Zheng, Cong Tu & Yongguan Zhu. 1999. *Ambio* 28(2): 130-134.

Heavy metal pollution of soil greatly affects not only the yield and quality of crop, animal and human health, but also the quality of the whole environment. The current status and the effects of heavy metal pollution in China are reviewed in this paper. Soil pollution by heavy metals from sewage irrigation and metal mining, smelting and processing activities is serious. Urban enterprises also contribute to heavy metal pollution of soils in China. The effects of soil pollution on plants, animals and human beings are discussed, and effective countermeasures for pollution control are presented. (Kathleen Flynn, KF)

HEALTH EFFECTS OF URBAN WASTEWATER REUSE IN AGRICULTURE IN A PERI-URBAN AREA OF MARRAKECH (MOROCCO)

Amahmid O & Bouhoum K. 1999. *Abstracts: Urban stability through integrated water-related management, 9th Stockholm Water Symposium, 9-12 August 1999*, pp 124-126.

An epidemiological study was carried out to determine the impact of urban wastewater re-use in agriculture on the transmission of two protozoan infections, *giardiasis* and *amoebiasis*, to children in a periurban area of Marrakech. These two infections are pathogenic, and *giardiasis* has recently become recognised as the most frequent protozoal infection and is therefore becoming a major public health concern. An increase in the incidence of water-borne outbreaks of *giardiasis* is reported in many parts of the world, yet the role that sewage re-use has played on the transmission of these parasites is not established. (KF)

COMMUNITY-BASED TECHNOLOGIES FOR DOMESTIC WASTEWATER TREATMENT AND REUSE: OPTIONS FOR URBAN AGRICULTURE

Rose, Gregory D. 1999. *Cities Feeding People Series*, no. 27 (Spring). Ottawa: International Development Research Center.

This paper presents a comprehensive analysis of technologies for domestic human waste management in urban environments. The main part of the paper focuses on a review of natural or naturally based technologies which can be implemented as alternatives to centralised electromechanical treatment technologies. The paper looks at the spatial requirements, costs, advantages, drawbacks and effectiveness of on-site and off-site land-based and water-based technologies, including waterless latrines, biogas reactors, water hyacinth-based systems, duckweed-based systems, and sludge blankets. The author gives a limited amount of consideration to public health aspects in terms of re-use, fertilisation, irrigation, and disease vectors. He states that further research into the health aspects and guidelines for wastewater re-use in aquaculture is needed. The author argues in his conclusion that, in general, natural treatment processes are viable, but not without barriers and impediments. He concludes with strategic, technical, sociocultural and economic recommendations for research and action. (KF)

THE HEALTH IMPACTS OF PERI-URBAN NATURAL RESOURCE DEVELOPMENT

Birley MH, Lock K. 1999. *Pembroke Place: Liverpool School of Tropical Medicine*. ISBN 0 9533566 1 2. 185 pp.

This monograph is based on a report commissioned by the UK Department for International Development (DFID), which is conducting research into natural resources in periurban areas through its Natural Resource Systems Programme. In this study, the various health hazards in connection with the periurban interface are identified and systematically examined. Health issues are organised into categories of communicable diseases, non-communicable diseases, injury, malnutrition and psychosocial disorder. In a way, periurban communities may have to face the worst of two worlds, being subject to both traditional and modern health hazards. All major natural-resource-management themes in the periurban setting are closely examined, such as energy, agriculture, fisheries and waste management. Also, a procedure for health impact assessment is described which can be used in project design and operation. The final chapters provide a synthesis of important linkages and give a state-of-the-art overview of researchable themes that require collective, natural resource-, social- and health-specialist inputs. Highly recommended reading for an audience of non-health specialists, such as managers of NRM projects, researchers and recipients of development aid. It contains a well-stocked bibliography on urban-health research. (WB - from executive summary)
<http://www.liv.ac.uk/~mhb/publicat/Periurban/Start.html> or
<http://csdinfo2.liv.ac.uk/~mhb/>

HEALTH AND ENVIRONMENT AND THE URBAN POOR

Hardoy Jorge E & Satterthwaite David. 1997. In: Shahi GS, Levy BS & Kjellström T (eds), *International Perspectives on Environment, Development and Health; Towards a Sustainable World* (New York: Springer Publishing Company Inc.), pp 123-162.

This paper looks at an array of health problems associated with urban environments in the South. The authors draw attention to the geography of inequality regarding human and environmental health, which have differential impacts. The authors argue that the people most vulnerable to environmental hazards are those least able to avoid them. Of particular interest for urban agriculture is the focus on chemical and industrial pollutants in urban areas. The authors mark chemical pollutants as one of the four most pressing urban environmental concerns. They claim that reports from Third World cities, of severe health problems arising from human contact with toxic or hazardous wastes are increasingly common. (From Kathleen Flynn, KF - IRDC-CFP Report no. 30)

URBAN FOOD, HEALTH, AND THE ENVIRONMENT: THE CASE OF UPPER SILESIA, POLAND

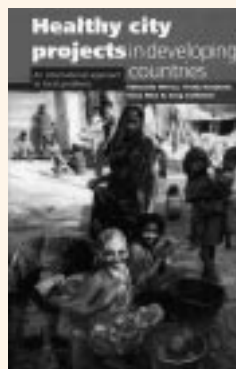
Bellows Anne C. 1999. In: Koc M, MacRae R, Mougeot L & Welsh J (eds.), *For Hunger Proof Cities; Sustainable Urban Food Systems* (Ottawa: International Development Research Centre), pp 132-135.

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 (that was so typical of former-centralised 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. In 1997, Poland celebrated 100 years of urban allotment agriculture, which has buffered local publics from alternating problems of food supply and food costs. However, the yields and safety of local food labour are sometimes sabotaged in regions burdened with severe pollution. The case study from Gliwice, in Upper Silesia, southwest Poland, discusses (1) organising an acquisition, labelling, 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)

TRENDS, PRIORITIES AND POLICY DIRECTIONS IN THE CONTROL OF VECTOR-BORNE DISEASES IN URBAN ENVIRONMENTS

Lines J, Harpham T, Leake C & Schofield C. *Health Policy and Planning* 9(2): 113-129.

This review describes how the physical and social changes associated with urbanisation have altered the transmission of vector-borne diseases. It concentrates on the important mosquito-borne infections: malaria, dengue and filariasis. Dengue virus vectors breed in relatively clean water in man-made containers, while urban filariasis vectors breed in highly polluted water, and these mosquitoes have now been spread by human activity to almost every tropical city. The authors point out that, with important exceptions, anopheline malaria vectors have not generally succeeded in adapting to urban life, but malaria can still be a problem where there are rural pockets in the middle of town. They specifically cite African cities as an area of potential risk because they tend to be relatively open, with patches of abandoned land and cultivation close to the centre. (Jo Lines)



HEALTHY CITY PROJECTS IN DEVELOPING COUNTRIES: AN INTERNATIONAL APPROACH TO LOCAL PROBLEMS

Werna E, Harpham T, Blue I, Goldstein G. 1998. London: Earthscan Publications UK.

ISBN 1 85383 455 6 (pbk) 148 pp. (GBP 15.95)

This book analyses the state of the Healthy City Projects in developing countries, implemented by the World Health Organization (WHO). A holistic approach to public health care was developed based on the idea that living and environmental conditions are responsible for health, a particularly acute topic in cities where people live and work together in such close proximity. Originally established in 11 European cities, then spreading throughout Europe and further to other regions of the world, the project was, at the time of publication active in at least 1,000 cities of towns. A Healthy City project supports city health authorities and/or local government in the field of information and analysis, in particular monitoring of the health status and the analysis of requirements. A number of case studies are presented. Much attention is paid to rapid appraisal techniques and to priority-setting procedures. The book ends with an examination of factors influencing the transformation of a project cycle into a continuous process. Illustrations are scarce, but there are many boxes focusing on case studies. (WB)