

CLEAR2020

Urban agriculture: food crops on previously-developed land

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Sustainable cities in the future will require improved food security and increased crop production in urban, suburban and peri-urban locations. There is an inevitability and need for more urban agriculture in future, due to diminishing land for crop production, an increasingly urban populace, urban sprawl and more demanding transport logistics for food and wastes. A paradigm shift towards producing food in cities will necessitate a clear understanding and application of the science underlying crop selection and diversification, soil quality and soil health. Hard evidence of risks and benefits is required to allay increased consumer awareness and concerns about food safety and food contamination. In this paper, I argue that these constraints largely can be managed to avoid food contamination whilst also achieving important environmental benefits that include better nutrient and water management through waste recycling, and a wide range of other soil ecosystem services including climate mitigation. I will draw attention to the serious gaps in communication of existing scientific knowledge of land contamination, assessment of risk and practicable remediation options that present barriers to food production on previously-developed land. Case studies of contaminated land remediation, management of technosols and the production of horticultural and agricultural crops in cities in Europe, China and New Zealand will be used to provide an evidence base. Rehabilitation of soils in the built environment and increased production of urban food crops will also better connect people with the outdoors and the natural environment, with a proven beneficial role to health, wellbeing, and sustainable cities.