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Institutional frameworks for controlled-environment food production systems in urban areas. A comparative analysis of Berlin, London and Nairobi

Victoria Dietze¹ and Peter H. Feindt¹
¹Humboldt-University at Berlin, Berlin, Germany

Background/Objectives: Producing enough healthy food for a growing world population within planetary boundaries is a global challenge. Various new technologies for resource-efficient and sustainable food production are currently under development. One specific approach are modular production systems that combine the production of e.g., plants, fish and insects in controlled environments to create closed material cycles. Such controlled-environment systems could then also be located in urban areas. However, establishing food production systems in urban contexts meets institutional challenges because legal frameworks and planning practices are often not prepared to accommodate food production, which is typically assigned to rural areas. Few studies so far have analysed the institutional framework for urban food production systems. This poster aims to address this gap.

Methods: Based on an institutional analysis we have analysed the institutional framework for at three different locations – Berlin, London and Nairobi, using a content analysis of relevant scientific and grey literature and 41 semi-structured expert interviews.

Results: The results show that in each location a variety of different formal and informal institutions affect the implementation and acceptance of controlled-environment food production systems. The relevant institutions reflect responses to past and present challenges to the food sector, as well as a range of stakeholder needs and power structures in the three locations.

Discussion / Conclusion: The different institutional frameworks point towards very diverse challenges and opportunities for the realization and acceptance of controlled-environment food production systems. Because none of the three locations provides a comprehensive regulatory framework for such systems, their implementation is marked by a high degree of regulatory uncertainty. The findings suggest that the successful establishment of controlled-environment food production systems in urban areas will require adaptive changes in the institutional framework that accommodate the novel type of production, the products and their utilization as well as the location of production.

Reference

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Disclosure of Interest

None Declared