



Urban Agriculture as an asset for innovation and sustainable development? –

The research project INNSULA

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Abstract

In the recent decades urban agriculture has become increasingly important within cities in developed countries. Various studies investigate urban agriculture in the context of sustainability, but impact assessment of resource management as part of ecological sustainability is missing. Furthermore urban agriculture is often generally presumed to produce innovative alterations - albeit without a scientific foundation of the assumption. The objective of the research project INNSULA is to explore the relevance of innovations in urban agriculture and their contribution towards sustainable development. Researchers use a set of explorative methods to study (i) innovation potentials of different types of urban agriculture, (ii) their ecological sustainability performance and (iii) relating them to the relevant political strategies towards sustainable development. Thus, the research project INNSULA contributes to improve the understanding of potentials of urban agriculture and applies innovation-theory and methodology of environmental impact assessment of urban agriculture for the first time.

Introduction

In the recent decades urban agriculture has become increasingly important within cities in developed countries. This development is accelerated particularly by an increasing demand for local and regional food and its ecological qualities on the one hand and decreasing supply with fresh food, especially within poor boroughs in some countries, on the other hand. Urban agriculture meets these issues by a local production of food, fibre and fuel within a town, city or a metropolis (based on Mougeot, L. J. A., 2001, modified). Researchers have investigated various benefits of urban agriculture. In terms of economy Voicu, I. and V. Been, 2008 for example have explored significant positive effects on poverty values of community gardens in New York City. In terms of social life Alaimo, K., T. M. Reischl and J. Ober Allen, 2008, show positive effects on community building and building of social capital in case of Flint, Michigan. Particularly various researchers describe urban agriculture as a key tool for achieving the targets of sustainability (e.g. Holland, L., 2004, Lovell, S. T., 2010; Pearson, L., L. Pearson and C. J. Pearson, 2010). But especially the environmental impact of urban agriculture is not explored and assessed so far. Furthermore urban agriculture is often generally not only seen as a solution for ecological issues of urban agriculture but connoted with the production of innovations and innovative alterations (e.g. van Veenhuizen, R., 2007).

Concept and project objectives

The project INNSULA – Innovation Analysis of Urban Agriculture (www.innsula.org) started in June 2011 to examine the relevance of innovations in urban agriculture and their contribution towards sustainable development. The Institute of Socio-Economics and the Institute of Land Use Systems of the Leibniz-Centre for Agricultural Landscape Research are involved in the project and the team is asked to conduct inter- and transdisciplinary research for three years funded by the German Federal Ministry for Education and Research. The project includes both basic and applied research.

The main objectives are (i) to explore the innovation potential of different types of urban agriculture, (ii) to investigate their ecological sustainability performance and (iii) at relating them to the relevant political strategies towards sustainable development.

In order to fulfil the objectives the following scientific questions are addressed:

- How is urban agriculture described? What are criteria to discriminate types of urban agriculture?
- What innovations and innovative alterations are developed and applied in context of urban agriculture? What political conditions constrain the diffusion of innovation and which promote development of innovative alterations and diffusion? Who are the stakeholders of innovation processes in context of urban agriculture?
- What are the environmental impacts of urban agriculture? How is resource management of urban agriculture ecologically assessed?
- What is the relevance of innovations to improve the ecological value of resource management?
- What policy strategies influence and promote sustainable urban agriculture in Germany? Can INNSULA support multi-level governance and self-profiling of initiatives by providing frameworks for better systematisation of urban agriculture?

Methodology and results

The research project focuses on spanning the range from types of urban agriculture, developed innovative alterations, ecological impacts and benefits of urban agriculture and policy strategies to promote urban agriculture as a tool to contribute to sustainability within cities.

The proposed hypothesis is that urban agriculture develops innovative alterations that provide environmental benefits. In parallel, in order to enforce sustainable urban agriculture, policy has to be informed in a more systematic manner to design and implement better targeted strategies.

First step is a literature analysis that is applied to answer the questions of how urban agriculture is described in developed countries and what are the discrimination criteria for urban agriculture types. Results improve the understanding of urban agriculture and classify further research approaches and their interpretation. Complementary building up the Online Knowledge Collection On Urban Agriculture is started to get a better insight in perspectives and activities in urban agriculture in Germany.

Secondly, a set of explorative methods (Patton, M. Q., 2002) is applied to analyse the state and potentials of innovations and innovative alterations in the field of urban agriculture. Semi-structured expert interviews are conducted for cases in three US-American cities with various stakeholders in innovation processes and give an in-depth understanding of constrains and promoting policies.

As a third step an assessment approach of sustainability of urban agriculture, focussing especially on ecological aspects and biodiversity is elaborated. For this a multi-level process with semi-structured expert interviews and workshops with experts are conducted. Results are criteria for assessment of resource management in urban agriculture in terms of ecological sustainability, this is used for the in-depth investigation on resource management practices of urban agriculture in Germany.

As a fourth step urban agriculture is analysed and classified in context of multiple levels of policy strategies and given promoting policies. Using the criteria for assessment of resource management as well as a typology of urban agriculture an assessment tool is developed. In two workshops with on the one hand stakeholders from various urban agriculture projects and firms and on the other hand stakeholders from various levels of municipal administrations the assessment tool is evaluated, adapted and applied. Aim is it to give the stakeholders an instrument with relevance in practice to profile themselves in terms of subsidies policies and achieving the target of sustainable urban development.

All in all, case studies in about ten German cities provide the empirical basis to explore in-depth the interrelation between urban agriculture and (i) innovation types and stakeholders

involved, (ii) practices of resource management and the assessment of its sustainability and (iii) political strategies and decisions to promote urban agriculture. Data is analysed by different qualitative methods, for example the Qualitative Comparative Analysis (Ragin, C. C., 1989)

Summary and expected results

The research project INNSULA is contributing to improved understanding of urban agriculture in terms of development of innovative alterations and environmental impact assessment.

Furthermore the project provides an approach to projects and firms to elaborate on their profiles. Support for municipal administrations to use the potentials of urban agriculture for achieving their target of sustainable urban development is provided by the development of a new typology and an assessment tool.

Expected results are (i) an advanced scientific comprehension of urban agriculture and its classification (ii) the theoretical grading of innovative alterations and innovations in context of urban agriculture (iii) a methodology to assess resource management practices in urban agriculture (iv) an integrated methodology with relevance in practice for achieving the target of sustainability in multiple levels (v) a participative developed Online Knowledge Collection On Urban Agriculture.

With INNSULA scientific progress will be made by applying innovations theory and methodology of environmental impact assessment on urban agriculture first.

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