

# ID 1511 | GREEN INNOVATION AREAS AS CONTESTED SPACES? INVESTIGATING POTENTIALS AND RISKS OF REVITALIZATION SCHEMES IN SHRINKING CITIES

Karina Pallagst<sup>1</sup>; José Vargas-Hernandez<sup>2</sup>; Patricia Hammer<sup>1</sup>  
<sup>1</sup>TU Kaiserslautern; <sup>2</sup>University of Guadalajara  
[karina.pallagst@ru.uni-kl.de](mailto:karina.pallagst@ru.uni-kl.de)

## 1 INTRODUCTION

All over the world many cities are undergoing structural changes with symptoms of economic crises (Pallagst, et al 2013). In these postindustrial or 'shrinking' cities, the transformation of former brown field areas has left many large urban areas abandoned or vacant. When looking to revitalize these cities, substitute industries often play a major role (Pallagst, 2012; Harkavy and Zuckerman 1999). Previous research by the authors made clear that revitalization efforts often focus on green infrastructure, in particular utilizing vacant properties for commercial uses such as urban gardening, farming, or agriculture (Pallagst, 2013; Pallagst forthcoming). Vice versa vacant or abandoned urban areas offer both, the potential for a sustainable transformation of former polluted sites (Vargas-Hernández 2011), and for creating jobs in new emerging areas thus transforming the identities of places.

The US city of Flint, one of the major cities caught in a long term spiral of economic decline and being governed under conditions of austerity, has brought about the urban planning category 'green innovation areas' in order to implement creative and innovative solutions in existing vacant spaces (Pallagst et al., forthcoming). Potential uses in these much debated areas are not fixed, but should explicitly be experimental and innovative. So far they might range from extensive greenhouse uses to less extensive clover fields, but their potential is not yet fully explored. The implementation of new and innovative modes of production in the urban realm is so far not represented in research for urban areas, in particular when development schemes like bioeconomy are considered. Here, issues and land use conflicts, often raised by civil society, might extend towards nuisance, over-exploitation of space, and rising land prices, leaving many open questions for urban research. This is exacerbated for instance in the Mexican realm, where, traditionally, in many areas public policies have been imported and imposed by external pressure without considering the local conditions, leading to high levels of influence of and power of economic and / or political interests and provoking serious conflicts.

The joint German-Mexican research presented here aims at scrutinizing the use of vacant inner city spaces as green innovation areas – discussing their potentials and detecting possible risks for implementation in shrinking cities.

## 2 STRATEGIES APPLIED IN THE US CITY OF FLINT AS A STARTING POINT FOR INVESTIGATING GREEN INNOVATION AREAS

### 2.1 THE GENERAL CONTEXT OF SHRINKING CITIES

Shrinking cities used to be a taboo topic, not fitting into the agenda of local politicians, who wanted their cities to be growing and prosperous, resembling growth machines. According to Oswald (2006), more than a quarter of the world's metropolises shrank in the 1990s and this will continue to increase, notwithstanding the on-going urbanisation processes. Shrinking cities have been a stigmatised topic in planning for a long time. However, the discourse in planning in Europe, in particular in Germany, actively takes on shrinking cities, and extensive literature has been written on the topic (e.g. Bontje, 2004; Gestring, Glasauer, Hannemann, & Pohlen, 2005; Häußermann & Siebel, 1988; Siedentop & Wiechmann, 2007). In the USA, the academic discussion is catching up as more and more scholars are investigating the trajectories of urban shrinkage (Beauregard, 2003; Hollander, Pallagst, Schwarz, & Popper, 2009; Ryan, 2012). In view of the shrinking cities reality in planning, one has to ask if the one-sided focus on

growth in planning is over. The challenges of shrinking cities seem to have the potential to trigger change in planning cultures and planning styles.

In search of planning strategies to deal with shrinkage, policies, plans, and projects have been initiated with different approaches, such as urban regeneration, urban redevelopment, and urban renewal, and all of these efforts try to tackle shrinkage-related causes to reverse or manage the downward-spiral process. These measures can serve as part of a planning strategy for expansion as well as a strategy for managing decline. The common denominator is their focus on improving the quality of life in the respective area.

Once cities have accepted that they are shrinking, they will most likely plan for decline. Among these strategies are right-sizing and greening, where blighted areas and abandoned quarters are turned into different forms of interim or permanent uses such as wilderness, community gardens, urban agriculture, and parks—thus creating new opportunities for open space and new landscapes while at the same time enhancing the quality of life for residents.

Despite merely dismantling the urban fabric, new opportunities for sustainability and quality of life might arise out of the shrinking cities phenomenon. Among them is ‘applying the green’ as a model for planning and revitalization. The example of Flint can be viewed as an example of how a shrinking city can turn away from an existing growth paradigm.

Greening and green spaces have gained significance in recent years both in growing cities and in shrinking cities, assigning greening the status of a tool with strategic urban development potential (Reimer et al 2015). The term ‘greening’ is used here as a strategic approach that aims to develop green infrastructure along with supporting environmentally and socially acceptable practices at the national, state, regional, and local levels.

How does this relate to the specific situation of shrinking cities? As shrinking cities embed huge conversions of former brownfield sites into green spaces as part of their right-sizing strategies, greening might be of particular and growing importance for shrinking cities. By definition, greening in shrinking cities involves the regeneration of former industrial sites for new parks, community gardens, restored habitats, flood-mitigating measures, water treatment plants, and municipal agricultural land, combined with the integration of existing green spaces (Schilling & Logan, 2008). Furthermore, greening can include the transformation and reorganization of road transport, the expansion of routes for pedestrians and cyclists, design measures to beautify the urban environment, promotion of urban gardens and farms, as well as the deliberate demolition of derelict buildings, which can be replaced through open spaces and sustainable planning policies (Adelaja, 2010).

Greening has the potential to generate benefits throughout all social, economic, and environmental areas. In fact, many of the heavily damaged and devastated areas of urban regions of shrinking cities have great potential for implementing greening measures. Accepting the fact that some areas cannot be considered for further development and instead should be transformed into a network of green spaces, hiking and walking paths, community gardens, and parks is a suitable requirement for the long-term need to deal with shrinkage. In addition, green infrastructure improves the quality of life of local residents, provides recreational opportunities, and increases the property values of neighboring homes (Schilling, 2007). Furthermore, investment in green infrastructure can represent complex economic benefits for the city and thus boost the economic growth of the city and its region.

## **2.2 THE FLINT CONTEXT OF GREENING**

Previous research by one of the authors (Pallagst, 2010) investigated shrinking cities in the USA in order to gather in-depth knowledge about experiences with applying strategies to steer the development of shrinking cities with the example of Flint/Michigan. During the course of the research, greening turned out to be of special importance as a future development path for shrinking cities. Hence, Pallagst further investigated the case of Flint in 2014 with a specific focus on aspects of greening integrated into the new master plan of the city (Pallagst et al, forthcoming). The master plan developed by Flint displays a strong focus on greening embedded in a context of neighborhood stabilization.

The reason for investigating Flint was—among other aspects—the suggestion of the new place type category ‘Green Innovation Area’ in the master plan. The new master plan was developed with a bottom-up collaborative process involving numerous suggestions by the citizens. The plan proposes several aims including citizen-based strategies by encouraging small businesses, developing community assets, and strengthening neighbourhoods. Based on existing vacancy rates, designated development zones were identified throughout the city, including a zone for residential and commercial development, a right-sizing zone, and a zone for residential demolition. The latter were declared as ‘Green Innovation Areas’ (see Figure 1), where formerly residential areas are to be converted to urban agriculture. In particular, green infrastructure is intended to strengthen Flint’s position as an employment centre at the neighbourhood level.



Figure 1: Envisioning the place type ‘Green Innovation Area’  
 Source: City of Flint (2013): Imagine Flint, Masterplan, p. 33

However, interviews with land bank staff and city officials in 2014 made clear that implementing the new measures is highly dependent on the commitment of stakeholders, in particular the city government and community and neighbourhood groups. Due to the diminishing tax base and high costs for maintaining infrastructure, the city government is in need of new forms of community-based governance and co-production, where community and neighbourhood groups shape the city’s new green spaces step by step. However, due to soaring debts the city of Flint was placed under state management with an appointed emergency manager steering the city’s financial situation, making any type of governance more complicated.

Innovative ideas might have the potential to attract new businesses, and even research and development, but these might at first be rejected by inhabitants in these areas. Residents still residing in the areas find it hard to adjust to the idea that their formerly urban neighbourhood will soon be ‘de-urbanised’ and turned into green space with a use yet to be determined.

### 3 GREEN INNOVATION AREAS (GIA) AS A DEVELOPMENT PATH FOR MEXICAN AND GERMAN CITIES?

Based on the insights of the Flint case with the yet to be defined category Green Innovation Areas, the authors initiated a joint German - Mexican research project which will be outlined in the paragraphs below.

#### 3.1 THE GIAGEM APPROACH

Following the National Research Strategy “BioEconomy 2030” of the German Federal Ministry of Education and Research, an interdisciplinary approach is considered necessary which ties in with aspects of societal change – involving different stakeholders in a knowledge exchange and by bundling individual research topics. In addition, approaches for regionally- and locally-adapted land management and decentralized

approaches should be tested (German Federal Ministry of Education and Research, 2011; Bundesministerium für Ernährung und Landwirtschaft, 2013). Major challenges lie within in a sustainable

use of natural resources, and in supplying land for bioeconomic uses in a way that minimizes land use conflicts (Bundesministerium für Ernährung und Landwirtschaft 2013). What would that imply for establishing bioeconomy in an urban realm?

Traditionally, public policies of bio economy have been imported and imposed by external pressure on México without considering the local conditions, leading to high levels of influence and power of economic and / or political inmates and provoking serious conflicts. Consequently, it is required to formulate policies, strategies and regulatory frameworks in a country with weak governance.

As mentioned in the introduction, shrinking cities often turn to substitute industries to create a new economic basis. The implementation of new and innovative modes of production attached to a bioeconomic development scheme in the urban realm is so far not represented in research for urban areas. Issues and land use conflicts, often raised by civil society, might extend towards nuisance, over-exploitation of space and rising land prices, leaving many open questions for urban research when it comes to implementing bioeconomic uses in urban areas. Nevertheless, bioeconomic development in urban areas might be a vital source for sustainable development perspectives – in particular in shrinking/old industrialized cities thus enhancing the quality of life and economic perspectives for citizens.

Already in 2007, Jordan et al called for a more integrated and sustainable approach towards bioeconomic uses: “Financial and policy support should be given to the multi-stakeholder processes of learning, deliberation, negotiation, and experimentation that are needed to establish and evaluate research and demonstration projects” (Jordan et al 2007: 1571). In the same direction goes the discourse of a co-creation of society and biotechnology: First attempts in this respect suggest a quality based agricultural production based on regional/local food chains and a ‘strategy of territoriality’ based on sustainable land uses (Levidow 2008). The concept of a regional bioeconomy has since then taken shape with further research studies, such as where examples of urban gardening in the city of Berlin are showcased as best practices of bioeconomic uses (Erbstößer 2014). Nevertheless, a discourse on the potentials and strategies regarding bioeconomic uses in postindustrial cities is yet in its infancy – let alone a means of implementing bioeconomy as a land use type in urban planning and development processes and decision making.

As highlighted in part 2 of this paper, the US city of Flint, one of the major cities caught in a long term spiral of economic transformation and decline, has brought about the urban planning category ‘green innovation areas’ in order to implement creative and innovative solutions in existing vacant spaces. The hypotheses underlying the research presented here is that leveraging vacant inner city spaces could offer novel solutions for industries such as bioeconomy, and kick-start urban transformations in a strategic way. As part of a German-Mexican research collaboration, the project GIAGEM (Green innovation areas in Germany and Mexico) aims at enhancing the use of vacant inner city spaces as green innovation areas for bioeconomic uses and their potentials for implementation in German and Mexican cities. It investigates the following research questions:

1. Which key knowledge transfer aspects regarding green innovation areas can be derived from ongoing projects (Germany, Mexico)?
2. What are the legal, administrative, economic, and societal conditions for green innovation areas and for developing areas for bioeconomic uses in Mexican and German cities?
3. In what way can existing approaches such as green innovation areas serve as prototypes for other cities (toolkit)?
4. Which areas for further research can be identified by the partners, setting the frame for coordinated projects?

The main output of this research will be a roadmap defining the different steps in order to prepare cities and local communities as well as SMEs in planning and decision making processes to implement bioeconomic uses in urban areas as an innovative and sustainable urban land use.

### 3.2 METHODS OF THE GIAGEM RESEARCH

Methods applied in the frame of the project GIAGEM include qualitative and quantitative approaches building on the individual competencies relating scientific and operational practice in urban development

and comparative research and urban transformation processes. A literature review was employed for data acquisition of green innovation areas as potential for bioeconomic uses. In addition, a comparative model for the German and Mexican projects and cases was developed, outlining basic requirements and indicators for GIAGEM. In addition, comparative research methods will be applied for studying the projects in order to identify strengths and weaknesses of previously applied strategies for green innovation areas. These factors will enable a learning process on green innovation areas, and on different strategic approaches on how to deal with this space for bioeconomic uses. One research workshop (in Mexico), offered a platform for discussion of concepts and approaches among researchers an interdisciplinary mode: engaging both fields: shrinking cities/urban development and bioeconomy. The results of the comparative projects and case studies will be evaluated and validated in terms of the analytical frame. On this basis, strategies and policy recommendations will be derived.

### 3.3 FIRST INSIGHTS IN GIAGEM CASE STUDIES AND RESULTS

One of the first steps in the projects was to define what Green Innovation Areas could or should be. Thus the authors came up with the following definition:

‘Green Innovation Areas (GIAs) are a new kind of land use type with the purpose of revitalizing vacant or abandoned spaces. GIAs are locations for new innovative uses which are not yet specified, yet they are of experimental and innovative character. The range of uses can be attributed to the area of bioeconomy (among others). GIAs address a number of public, private and civil society actors. They aim in particular at connecting the communities’ and the entrepreneurs’ interests by means of long range land use planning and sustainable land use allocations. In doing so they support two aspects: sustainable and land conscious settlement planning, and implementing bioeconomic (or other entrepreneurial) uses in urban revitalization processes.’

In terms of case study research, the project GIAGEM is still work in progress. Both teams, German and Mexican, have identified preliminary cases to be investigated.

Among the German cases currently being examined is ‘Fresh Sea Fish Farm’ located at Völklingen. Increasing demand for fish worldwide led to overfishing. Aquaculture thus offers an alternative to satisfy demand & reduce the ecological footprint. Located on a former coke plant, the area has undergone a tremendous redevelopment process initiated by the city government. But, this process was characterized by a highly contested mix of over-ambitious goals and mismanagement. Despite its innovative approach, the project is still stigmatised by the bad image of its development phase.

Among the Mexican cases being investigated is the ‘Parque Agroecológico Zapopan’, a community based urban farm located in the city of Zapopan/Guadalajara, Mexico. The ‘Parque’ is considered an innovative public space that combines the direct participation of the community within an urban farm project with practices that support the culture of sustainability as well as training workshops on different agroecological themes to generate a unique space in the city open to all citizens. The agro-ecological park seeks to better integrate the relationship between landscape and city in a novel way. With a model of reforestation of the public spaces with the use of species edible, usable and adapted to the habitat. It advocates for educating a new generation of environmental activists. It thus offers a model of community development that includes the formation of citizen leaders committed to their environment.

Both cases show different approaches towards dealing with abandoned spaces – the German case started as a top-down approach, and is now entirely privatized; the Mexican case is based on cooperative sharing. During the course of the research, a stakeholder based analysis will offer more in-depth insight into the opportunities of GIA in urban development and revitalisation efforts.

## 4 PRELIMINARY CONCLUSIONS

Applying green innovation areas as a revitalization tool for shrinking cities still needs to prove if it is suitable as a model for future development and revitalization in search of a new quality of life. In this regard, Nassauer and Raskin (2014) observe that ‘...the spatial scales and temporal processes of

abandonment and vacancy in the most highly vacant cities may present thresholds representing socio-ecological dynamics that call for novel planning and design approaches' (p. 250).

Research questions which still need to be addressed in terms of green innovation areas are:

- In what way should the new green innovation areas be developed: As grassroots movements? As new employment opportunities for small and medium sized enterprises? As spaces for highly specialized research and development?
- How can social capital be leveraged, potentially in the context of co-production and co-sharing of green innovation areas, and be utilized in shrinking cities?
- In what manner can the development process of the new green innovation areas be governed, and by whom?

## BIBLIOGRAPHIC REFERENCES

Adelaja, D. S. (2010). Why Detroit Matters Part IV Pathways to the New Economy Land Policy Institute Michigan State University. Retrieved from: [http://www.landpolicy.msu.edu/modules.php?name=News&op=viewlive&sp\\_id=118](http://www.landpolicy.msu.edu/modules.php?name=News&op=viewlive&sp_id=118).

Beauregard, R. A. (2003). Aberrant Cities: Urban Population Loss in The United States, 1820–1930. *Urban Geography*, 24/8, 672-690.

Bontje, M. (2004). Facing the challenge of shrinking cities in East Germany: The case of Leipzig. *Geojournal*, 61, 13-21.

Bundesministerium für Ernährung und Landwirtschaft (2013) Nationale Politikstrategie Bioökonomie [National Political Strategy Bioeconomy], Bonn.

Erbstößer, A.-K. (2014) Smart City Berlin: Urbane Technologien für Metropolen, Report 2014; Technologie Stiftung Berlin.

Federal Ministry of Education and Research (BMBF) (2011) National Research Strategy BioEconomy 2030 - Our Route towards a biobased economy

Gestring, N., Glasauer, H., Hannemann, C., Petrowsky, W., Pohlen, J. (Ed.) (2005). Jahrbuch StadtRegion 2004/2005 Schwerpunkt Schrumpfende Staedte [Yearbook city region 2004/2005 topic shrinking cities]. Wiesbaden: VS Verlag für Sozialwissenschaften.

Häußermann, H., & Siebel W. (1987). Neue Urbanität. Frankfurt am Main: Suhrkamp.

Harkavy, Ira, and Harmon Zuckerman (1999) Eds and Meds: Cities' Hidden Assets. Washington: Brookings Institution

Hollander, J. B., Pallagst, K., Schwarz, T., & Popper, F. J. (2009). Shrinking Cities as an emerging planning paradigm, *Progress in Planning*, Special issue on emerging research agendas. *Urban design and planning* 2009. 223-232.

Jordan, N. et al (2007) Sustainable Development of the Agricultural Bio-Economy; in: *SCIENCE VOL 316* 15 JUNE 2007, 1570-1571.

Nassauer, J. I., & Raskin, J. (2014). Urban vacancy and land use legacies: A frontier for urban ecological research, design, and planning. *Landscape and Urban Planning*, Vol. 125, May 2014, pp. 245-253

Oswalt, P., & Rieniets, T. (Eds.). (2006). *Atlas of Shrinking Cities/ Atlas der schrumpfenden Städte*. Ostfildern: Hatje Cantz.

Pallagst, K. (2008): Shrinking cities - planning challenges from an international perspective, in: *Urban Infill*, special issue 'Cities Growing Smaller', Vol. 1, 6-16.

Pallagst, K. (2009). Shrinking Cities in the United States of America. In Pallagst, K., Aber, J. Audirac, I., Cunningham-Sabot, E., Fol, S., Martinez-Fernandez, C.,... Wiechmann, T. (Eds.). *The future of shrinking cities - problems, patterns and strategies of urban transformation in a global context* (pp. 81-88). Institute of

Urban and Regional Development, Center for Global Metropolitan Studies, and the Shrinking Cities International Research Network Monograph Series. 2009.

Pallagst, K. (2010) "Viewpoint. The planning research agenda: shrinking cities – a challenge for planning cultures." *Town Planning Review* 81:5, I-IV.

Pallagst, K. (2012) Shrinking cities in the United States: policies and strategies, in: Martinez-Fernandez et al (eds.) Demographic Change and Local Development: Shrinkage, Regeneration and Social Dynamics. OECD Local Economic and Employment Development (LEED) Working Paper Series. Paris. 41-46.

Pallagst, et al (forthcoming) Greening the Shrinking City – New Sustainable Planning Approaches in the USA; Landscape Research.

Pallagst, K.; Fleschurz, R.; Said, S. (2017). What drives planning in a shrinking city? Tales from two German and two American cases; in: Town Planning Review, Special issue on shrinking cities. Vol. 88-1, S. 15-28.

Pallagst, K., & Wiechmann, T. (2005). Shrinking smart – städtische Schrumpfungprozesse in den USA. In N. Gestring, H. Glasauer, C. Hannemann, & J. Pohlen (Eds.). Jahrbuch StadtRegion 2004/05 Schwerpunkt: Schrumpfende Städte. (pp. 105-127). Wiesbaden: VS Verlag für Sozialwissenschaften.

Pallagst, K., Wiechmann, T., & Martinez-Fernandez, C. (Eds.). (2013). Shrinking Cities: International Perspectives and Policy Implications. London/ New York: Routledge.

Reimer et al (2015) Grüne Infrastruktur in urbanen Räumen; in: RaumPlanung 4-2015. 6-7.

Ryan, B. D. (2012). Design after decline – How America rebuilds shrinking cities. Philadelphia: University of Pennsylvania Press.

Schilling, J. (2007). Blueprint Buffalo - Using Green Infrastructure to Reclaim America's Shrinking Cities. INSTITUTE OF URBAN AND REGIONAL DEVELOPMENT Berkeley Retrieved from: [http://metrostudies.berkeley.edu/pubs/proceedings/Shrinking/18\\_Schilling\\_PA\\_final.pdf](http://metrostudies.berkeley.edu/pubs/proceedings/Shrinking/18_Schilling_PA_final.pdf).

Schilling, J., & Logan, J. (2008). Saginaw Masterplan, Planning the future of Saginaw, Michigan. Abgerufen am 20. Juni 2011 von [http://www.saginawmasterplan.com/wp-content/uploads/2010/09/saginaw\\_mp\\_greening.pdf](http://www.saginawmasterplan.com/wp-content/uploads/2010/09/saginaw_mp_greening.pdf)

Siedentop, S., & Wiechmann, T. (2007). Zwischen Schrumpfung und Reurbanisierung – Stadtentwicklung in Dresden seit 1990. RaumPlanung 131, 57-62.

Vargas-Hernández, J. G. (2011). "Preservación de la herencia cultural y revitalización de un pueblo minero en México. Cerro de San Pedro". Rosas, M., Tobar, J., Zárate, A. (Eds.) Arte y Patrimonio Cultural. Inequidades y exclusiones. Popayán, Colombia. Universidad del Cauca. 85-96.

## ID 1590 | REGIONAL INTEGRATION IN ETHNIC AND RELIGIOUS CONTEXTS: TAKING GERMANY AND CHINA AS EXAMPLES

Zhaoxi Zhang<sup>1</sup>  
<sup>1</sup>Tongji University  
[xi-527@qq.com](mailto:xi-527@qq.com)

**ABSTRACT:** Recently, caused by the precarious situation, a large quantity of refugees are facing an immigrant condition, which is one of the major city development problems in the European region. It also brings social, religious and cultural integration to the receiving country, which will be a new challenge in the future urban planning. As we know, the effective regional development strategies to consider different religious and cultural backgrounds will benefit urban stability, harmony and diversification. So this paper will analyze the developmental experience of Germany and China, comparing the referential value of different regional integration strategies under the East and West context. Germany, for example, new status policy protects a large number of refugee camps in most cities, which also makes change to city resource allocation and facilities utilization, as well as the urgent need of residential projects and new requirement constructions. Taking Germany as an example, we can see what kind of influence this "top-down" policy will give to the city. Compared with China, which is another political system, as a multi-nationality country, there is a long history about regional integration in China. Taking Xi'an Huimin Street as an example, to discuss the pros and cons of the "bottom-up" self-built development model.