2019 Planning, Law, and Property Rights
February 18 – 22, 2019
Book of Abstracts

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10:45a – 12:30p, Wednesday, February 20, 2019

Coastal Session: 114, 167, 173 (Berke moderating)

Abstract of Contribution 114

ID: 114
General Paper
Keywords: UN Sustainable Development Goals, coastal planning, legal institutions

Acts of Government and Acts of God: Using U.S. Coastal Legal Doctrines and Planning Principles to Critique the United Nations Sustainable Development Goals

Richard K Norton

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The United Nations Sustainable Development goals call, in part, for strengthening institutions that address sustainability by enhancing coastal ecosystems and reducing coastal hazards. These goals do not address the institution of private property rights, however, or provide guidance on reconciling expectations of private property ownership with publicly oriented goals like economic development, resource conservation, and hazard mitigation through planning or other governmental decision-making processes (Beatley et al. 2002). The purpose of this essay is to critique and inform these UN goals by working through them using several key legal doctrines at play along coastal shores.

Institutions can be defined as systems of established social rules that structure interaction, including both informal constraints (e.g., sanctions, customs, traditions) and formal rules (e.g., constitutions, laws) (North 1991; Hodgson 2006). Four of the UN goals speak directly to the intersection of institutions and sustainability as it relates to the conservation of ecosystems and the mitigation of coastal hazards, including: Goal 11 (resilient cities); Goal 13 (climate change); Goal 14 (marine resources); and Goal 16 (institutions). Absent are the institution of private property rights and a means to reconcile conflicts from promoting development, on the one hand, while enhancing ecosystems and/or reducing hazards, on the other, through planning or other decision-making processes. Moreover, the goals fail to provide guidance on appropriate codes of conduct or liability when governmental acts influence natural dynamics in ways that might undermine the long-term sustainability of both coastal ecosystems and communities (e.g., building harbor structures, adopting zoning regulations that allow development in high-risk coastal zones).

Addressing the theme of climate change, and using Great Lakes coastal settings for context, I draw upon selected legal doctrines implicated by coastal management to critique and comment on the UN goals, including doctrines speaking especially to acts of government (e.g., building harbor structures, regulating land use) and those speaking to natural dynamics (e.g., erosion/accretion) (e.g., Sax 2009), focusing especially on the implications of 'acts of God' (e.g., limits on liability from unforeseeable natural events). I conclude by discussing implications for the UN goals in coastal and other settings of high resource value and vulnerability (e.g., mountainous wildfire areas), and in terms of reconciling conflicting goals in application.

Abstract of Contribution 167

ID: 167
General Paper
Keywords: Marine Spatial Planning, United Kingdom, marine and coastal governance, legal framework, comparative analysis

A comparative analysis of marine governance across the UK

Linda McElduff

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The Marine and Coastal Access Act (MCAA) 2009 was the UK's first piece of comprehensive legislation focused on the governance of the marine and coastal environment. It sets out the statutory basis for a new ecosystem based, plan-led system for marine activities and seeks to facilitate the sustainable development of the UK seas. Ten years on from the enactment of the MCAA this paper reviews the evolving system(s) of marine governance in the UK. Particular focus is placed on the extent of coherence between (1) the devolved administrations of England, Wales, Scotland and Northern Ireland, and (2) terrestrial and marine spatial planning (MSP) especially in the coastal zone.

To this end, a comparative analysis of marine policy and plans across the four devolved administrations of the UK is conducted. With each administration developing its own approach to marine planning and delivery mechanisms to reflect the specificities of their seas and local approaches to marine and coastal governance, this review presents a timely opportunity to identify areas of policy convergence and divergence.

The paper concludes that whilst a critical turn in MSP has taken place in practice towards a stricter legal and regulatory framework, there remains a lack of horizontal and vertical integration in relation to marine governance. MSP has not yet reached its full potential.

Abstract of Contribution 173

ID: 173
General Paper
Keywords: Coastal Management, Planning, Social Capital, Co-Management, Sustainable Development

Indonesian Law in Coastal Management: Overcoming Opportunity and Challenge

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Sustainable coastal management is needed because coast has many potential natural resources. In order to coastal areas can be utilized optimally and reduced conflict between stakeholders, the coastal management planning stage must involve all parties and integrate regulations. Therefore, planning does not only focus on physical elements, but also social elements. This paper will describe the problems obtained from several studies conducted by the writer related to coastal management, and will also assess the role of social capital in coastal management planning. It reveals that the ideal coastal management model in Indonesia is co-management, because this model can minimize conflict. In the co-management model, social capital is an instrument to drive sustainable development.

Property Rights 1: 210, 108 (Kaplinsky moderating)

Abstract of Contribution 210

ID: 210
General Paper
Keywords: development tax, land use planning, agricultural land protection

Inverse consequences of development tax? The case of the Czech Republic

Eliška Vejchodská[1], Martin Pělucha[2]

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The Czech Republic imposed a levy on the loss of agricultural land due to development. The levy is paid by investors in land development. A part of it is a revenue of local municipalities. The levy rate is dependent on the production potential of agricultural land being lost. By its attempt to reflect the social value of land's agricultural potential, the levy resembles development taxes.

Paradoxically, this policy designed to protect precious agricultural land from development might be even worse than business as usual scenario in terms of the amount and quality of agricultural land being lost. The reason stays in the property rights setting and conjunction of municipalities' roles. On the one hand, municipal authorities are decision-makers about the area and the location of new development and define constraints on urban development (which are not subject to compensation in the Czech Republic). On the other hand municipalities are receivers of the levy yield. The levy might thereby act as a stimulus for the increase of the amount of developable land defined by municipalities.

The aim of the conference contribution is to assess the possible inverse consequence of development tax imposed in the Czech Republic by statistical analysis using a multiple regression analysis. We worked with the data of the sample of 986 Czech municipalities.

Abstract of Contribution 108

ID: 108
General Paper
Keywords: Land development rights, China, Transaction Costs, Land policy Implementation

Establishing land development rights in China: Impact of transaction costs on policy implementation and consequences in Chongqing

Lu Zhou

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In March 2018, the State Council in China announced the establishment of a national market for land development rights creating and trading to balance conflicting goals of urban development and rural farmland preservation. Despite numerous debates about this policy, understanding of its theoretical rationale and impact is lacking. This thesis analyzes the impact of transaction costs on policy implementation and consequences over time and space using the institutional and organizational analysis framework.

The empirical test is based on Chongqing, the first and largest among 5 pilot cities of this policy since 2008. Specifically, it asks four questions: 1) What are the determinants of supply and demand pattern of land development rights? 2) How did supply and demand pattern change over time and space? 3) Did the land reform contribute to urban growth and regional divergence? 4) What are the policy impact on rural inequality, labor mobility, urbanization tendency, and farm land conservation? These questions are addressed by interviews, questionnaire survey, transaction statistics, and economic models.

Climate Change: 115, 185, 170, 203 (Sheehan, moderating)

Abstract of Contribution 115

ID: 115
General Paper
Keywords: planning, zoning, climate change

Western US Cities Respond to Climate Change

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The withdrawal by the United States from the Paris Climate Accords leaves America cities and states as the agencies for change in reaching the world goal of less than two degrees Celsius increase over the pre-industrial levels. While some states, notably California, have stepped up, climate change response has largely been taken by cities, which will also bear the brunt of climate change effects.

This paper surveys the efforts of six Western American cities, namely Los Angeles, San Francisco, Phoenix, Salt Lake City, Seattle and Portland to deal with climate change and uses four "markers" (i.e., transportation, land use, public services and facilities and energy generation) to evaluate those responses.

None of the cities reviewed achieve an outstanding grade in all four categories and, correlatively, does each of them do poorly in all categories. Instead, there are programs to be emulated in each of these cities.

The conclusions suggest that other cities may wish to adopt selective programs from these cities as their own economic circumstances and political will may allow.

Abstract of Contribution 185

ID: 185
General Paper
Keywords: Encroachment, Hazards, Discounting

Encroachment, Hazards and Discounting

George Oliver Rogers

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This paper discusses the issues that arise when communities encroach into potentially hazardous areas. This encroachment can occur in several ways, like when cities grow over time becoming closer and closer to hazardous facilities, or when development upstream changes the size of the flood plain, or as sea level rises in conjunction with climate change. Sometimes the people come to the hazard, sometimes the hazard comes to the people. The decisions that community leaders need to take to deal with these situations often involve discounting the future. This discounting involves making land use decisions that favor present over future resources, including people, property, and community wellbeing. But preserving future values often amounts to taking value from present property owners. Finding the balance between preserving value now with protecting the community in the future is the conundrum facing community officials.

Abstract of Contribution 170

ID: 170
General Paper
Keywords: suburbs, zoning, climate change, land use regulation

Zoning for Climate Change: Learning from Leader Suburbs

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A growing number of local communities in the United States have assumed important roles in multi-level efforts to address climate change. With pressure coming off at the federal level, the responsibility for combatting climate change has shifted to the state and municipal levels where local planners have become more adept at reducing greenhouse gas emissions. A number of leader cities have reaffirmed voluntary pledges to reduce greenhouse gas emissions. Over 1,000 mayors representing a population of over 90m have joined the U.S. Mayors Climate Protection Agreement (Mayors Agreement) in which they pledge to meet what the U.S. commitments under the Kyoto Protocol would have been. While there has been attention to the role of cities in responding to climate change, there has been little attention to the role of suburbs. Suburbs are poised to play a major role in the effort to mitigate the buildup of greenhouse gases and adapt to an uncertain future.The majority of the U.S. population resides in the suburbs and a high degree of land use control is vested in local suburban municipalities. Many of the potential measures to mitigate and adapt, including land use regulations, building codes, and protecting and maintaining critical infrastructure, are in the purview of local governments. Zoning is one of the most powerful and effective tools to implement plans and shape and protect a local suburban community. Where do real possibilities for suburban action through zoning lie? Drawing on a sample of local municipalities in four Pennsylvania counties outside Philadelphia, this research examines recent suburban-level regulatory efforts in zoning for climate change. This research provides an analysis of the regulatory capacity of suburbs to play a

constructive role in addressing climate change. Drawing on best practices from a selection of 12 leader suburbs, this research analyzes these efforts and identifies local-appropriate regulatory responses.

Abstract of Contribution 203

ID: 203
General Paper
Keywords: Climate Change, Social Vulnerability, Physical Vulnerability, Spatial, Urban Planning

Explorations on Cities through Time: Understanding Vulnerability with Climate Change

Anjali Katare

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Climate Change projections have indicated that there would be significant increments in the global surface, air and sea temperatures (Kirtman et al, 2013). It is certainly one of the most challenging issues faced by the global community. Urban Planners are at the optimal position to tackle the problem. The American Planning Association suggests that Climate Change presents "the full spectrum of a classical planning dilemma – it is long-range in nature, comprehensive in scope, and significant in impact." The issue hence, makes itself extremely relevant for all planning sectors; tied in with the land-use planning.

The paper intends to understand the changes in physical and social vulnerability as the cities grow; spatially, across time, to understand how the growth of the city over the years has impacted the vulnerability of the communities. The cities would be examined on the criteria of economic and racial stratification, physical vulnerability to hazards, and social vulnerability. It seeks to make comparisons between two major cities in the United States; Houston and Boston. Finally, the paper aims to test the hypothesis if planned cities are better at reducing risk to communities by building resilience as compared to unplanned cities. The idea is to understand how spatial planning responds to climate risk mitigation presently and what strategies or frameworks can be adapted to improve spatial planning methodologies or plans itself.

1:30p – 3:15p, Wednesday, February 20, 2019

Social Issues and Climate Change: 128, 180, 181, 226

(Hengerstermann moderating)

Abstract of Contribution 128

ID: 128
Special Session: Responding to Climate Change
Keywords: youth; due process; equal protection; intergenerational equity; climate change

Youth and Future Generations as Suspect Classes in Climate Litigation: Are they suspect classes in need of extraordinary protections

Dawn Eve Jourdan

Texas A&M University, United States of America

Climate change is a wicked problem due to its complexity. Given growing knowledge about and acceptance of the culpability of humans in causing climate change, citizens of the world are calling for policies at the national and international level. In those places slow to respond, climate litigation has emerged as a method that activists are using to force action. The U.S. Climate Change Litigation database, managed by the Sabin Center for Climate Change Law at Columbia Law School, recognizes more than 700 such lawsuits worldwide.

The United States in no exception. The climate litigation presently garnering the most attention is Juliana v. United Stated. In this case, 21 youth have challenged the actions of the federal government for knowingly creating and exacerbating climate change through fossil fuel extraction, production, consumption, transportation and exportation. Juliana v. United States, 217 F. Supp. 3d 1224, 1248 (D. Or. 2016). They assert that 50 years of knowledge regarding the harmful effects of fossil fuels on the environment, as well as inaction to regulate or mitigate carbon pollution, is a violation of the Fifth and Fourteenth amendments to the U.S. Constitution, as well as the public trust doctrine.

While there are many interesting attributes of this U.S. v. Juliana litigation, this paper seeks to focus on the rights of the plaintiffs to bring this suit. Achieving legal standing is often a barrier to environmental litigation. The plaintiffs in Juliana have asserted their rights, as well as the rights of future generations, on grounds that they are "'suspect classes in need of extraordinary protection' who lack political power to challenge the actions of the defendants and who will be disproportionately affected by the harm caused by the defendants." Complaint at 43-44, Juliana v. United States (No. 6:15-cv-01517-TC), 2015 WL 4747094 (D. Or. Aug. 12, 2015). The trial for this much anticipated case has been set for October 29, 2018. The outcome of this decision, regardless of outcome, will set legal precedent as the court hears an intergenerational equity claim under the Due Process and Equal Protection Clauses. This decision will likely shape discussions by planners and lawyers alike about the role of youth and future generations in local, national, and international decisions making.

Abstract of Contribution 180

ID: 180
General Paper
Keywords: local politics, land use, corruption, gentrification, NIMBY

The Meaning of Corruption in Local Politics

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The signs of corruption in local politics are everywhere. Literally. In the period before any local election, voters are besieged with yard signs alerting them to the corruption in their midst: greedy developers robbing residents of open space and choking local streets with traffic; spineless politicians selling out the community's character as they rake in campaign contributions from developers, the scourge of new "luxury" housing. The authors of these signs do not share the Supreme Court's narrow view of corruption as a *quid pro quo* bargain between politicians and special interests; they understand corruption in the broader, civic republican sense of money illegitimately invading the public sphere.

But this public understanding of local corruption contains an internal inconsistency that is almost always unrecognized. What it leaves out is that developers are not the only people attempting to influence local politics for financial gain, and at the expense of the public welfare. When a city blocks new development, existing homeowners stand to profit handsomely from increased home equity, while renters, workers, prospective residents of the community and the larger society lose. In many high-demand cities with extremely restrictive land use regulations, a home "earns" far more in equity every hour than a minimum wage worker earns at a job. In those same cities, rents are at all-time highs because of housing shortages, economies are suffering because of an inability to match job skills with employers, young people are shut out of economic opportunities because of high housing costs, and climate change is worsened by long commutes.

In short, if it is corrupt for a city councilmember to be influenced by a developer with a profit motive in having development approved, it follows that it is also corrupt when city councils are influenced by homeowners with a profit motive in having development disapproved. Yet, the public understanding of local corruption never stretches this far. To the contrary, homeowners are often perceived as noble, civic-minded activists seeking to preserve the community against the greedy developer. Why? The disconnect lies in the republican conception of corruption itself. At its root, republican ideology sees anything foreign as inherently corrupting. The idea of corruption, as Arlene Saxonhouse writes, was invented by the ancient Greeks specifically to ensure that the large class of foreigners living in Athens would never have political rights. The framers of the U.S. Constitution, moved by republican principles, sought to limits foreign influence in various ways. Even the Supreme Court's limited view of corruption accepts the legitimacy of prohibiting foreigners from voting or making financial contributions to elections.

In the context of local politics, the developer stands for the introduction of something foreign into the community – a denser city, different kinds of people, a changing way of life. These changes are often depicted as alien: new housing developments either threaten to bring "inner city values" into suburban communities, or "luxury" housing for hipster gentrifiers into poor neighborhoods, or sometimes both at the same time. This rhetoric dehumanizes those who desire to enter the community by depicting them as foreign to the community's values and therefore unworthy of its empathy.

This understanding of the meaning of corruption obviously has serious consequences for the housing crisis California and many other states currently face, fueling the NIMBY syndrome that makes the siting of new housing a political impossibility in many communities where it is badly needed. But it also has an eerie parallel with, and thus important implications for, our national political environment, in which immigrants are depicted as dangerous, inhuman foreigners corrupting our collective way of life. In my view, republican ideology has always worked best as a critique of our predominantly liberal republic, but it has never stood very well on its own two feet as a theory of government in a diverse, commercial society. In short, we need a new definition of corruption.

Abstract of Contribution 181

ID: 181
General Paper
Keywords: climate protection statute

Climate protection statutes in Germany – The emergence of a new field of legislation

Martin Wickel

HafenCity University Hamburg, Germany

Since 2013 six German states (Bundesländer) have issued climate protection statutes. Arguably, a new field of legislation is evolving. The presentation will analyze the content and structure of the statutes and will look into the common elements as well as in the differences between the statutes. One element found in all statutes are climate protection goals. To which extent are they binding? And if they are binding, which actors are bound? Most of the statutes provide for climate protection plans. These play a central role in the coordination of the various efforts to reduce the emission of greenhouse gases. The presentation will argue that such a planning tool can be used to relate the efforts in different fields of policy (e.g. traffic, housing, industry) with one another. This is necessary to guarantee the proportionality, a constitutional requirement, of the different measures. With respect to concrete measures to reduce greenhouse gas emissions it will be asked whether these should be included in the climate protection statutes or should be regulated in other fields of law. Finally, the role of the climate protection statutes in a multilevel governance structure will be analyzed. What is their relation to a Federal statute that is not yet issued? Which role do they play in the coordination of regional and local mitigation efforts?

Abstract of Contribution 226

ID: 226
General Paper
Keywords: Climate Refugees, Climate Change Framework, Environmental Refugees, Urban Planning Agenda, Environmental Property Rights, United Nations. Climate Change

New Urban Planning Agenda: Climate Refugees and International responsibilities to Legally Define Property Rights

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In this study, climate refugees are considered as one of the new urban agenda issues of the 21st century. Thus, the document seeks to highlight the legal status of the concept of “climate refugees” and the position of United Nations as a global arranger. The material outlines whether the existing international framework adequately covers the definition and protection of climate refugees. The paper proposes certain solutions related the climate refugee problem. The effectiveness of such implementation measures is largely beyond the scope of this study. However, it is apparent that without cooperation between states and international organizations agreeing on a common set of definitions, the issue will remain insoluble. All these assessments show that the effects of climate change may be forced hundreds of people to leave the cities they live in. Or those who will be affected will have to migrate to other cities or other countries to reach better living conditions and resources. This situation spontaneously draws three main problems:

- Increasing social inequalities,
- The planning problems that have arisen due to the immigrant mobility in cities and the types of plans that communities have done to adapt and/or mitigate the problem of climate refugees
- The "new urban and environmental rights" issue that creates a new set of property rights for individuals who are climate refugees

This paper has three main parts: In the first part, the conceptual issues and terminology related to the issue will be outlined including the relationship between legal issues, planning concerns and the establishment of property rights. ; in the second part international legal literature will be reviewed; in the third part the position and the potential of United Nations on the issue will be discussed.

Technology and the City: 141, 184, 190 (Behzadan moderating)

Abstract of Contribution 141

ID: 141
General Paper
Keywords: social equity, transportation equity, emerging technologies, autonomous vehicles

Social Equity and Emerging Transportation Technologies in Planning

Jacqueline Ann Kuzio

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Emerging technologies such as Autonomous Vehicles (AVs), Connected Vehicles (CVs), and the Internet of Things (IoT) are rapidly advancing. Testing of AVs is being undertaken in 24 cities across the U.S, and an additional 74 cities worldwide. The introduction and expansion of these new modes of transport and supporting technologies will have vast implications for social equity, depending on planning practices and policy making. This paper explores how 20 Metropolitan Planning Organizations (MPOs) are preparing for emerging technologies and considering their implications for equity. We conduct a qualitative content analysis of regional transportation plans (RTPs) looking for evidence of these efforts. 80 percent of plans included planning for social equity beyond the current environmental justice (EJ) requirements, 70 percent mentioned emerging technologies, and 20 percent considered the equity implications of those technologies. The results showed promising practices from a number of areas, with the Southern California Association of Governments (SCAG) leading the way in addressing both equity and emerging technology planning, separately; and Madison, WI providing the best planning effort toward the equity implications of emerging technologies.

Abstract of Contribution 184

ID: 184
General Paper
Keywords: Planning, Law, Technology, Artificial Intelligence, Public Participation

"Computer Says Build": Artificial Intelligence and Development Control in the English Planning System

James Corbet Burcher

No5 Chambers, United Kingdom

Issues

What are the lawful boundaries of artificial intelligence in the determination of a planning application?

- Can a "machine" be used to identify, source and organise key facts?

- Can it lawfully "suggest" findings on development plan policy compliance/socio-economic impacts/environmental effects (including climate change)?

- Can it lawfully "recommend" the overall outcome to grant or refuse permission?

- Can it monitor or "correct" human decision-making after the decision?

The planning sector internationally is witnessing a rapid development in technologies and tools to assist in all areas of the planning and property sector, under the terms: PlanTech, LawTech and PropTech.

This paper provides a structured analysis of the development of planning technology tools to assist with development control decisions in England (as a self-contained 'national' jurisdiction).

Legal and Practical Framework

The English Planning system operates as a structured discretionary system, with the majority of decisions on larger schemes subject to determination by locally elected councillors organised as a "planning committee" and advised by local government planning officers through written reports.

Officer's Reports are traditionally written in a structured format, often using existing templates from previous decisions. Reports begin by summarising key factual, geographical and project data. They then summarise inputs from applicants, statutory consultees, third parties (supporters or objectors, mainly members of the public). Analysis sections then explore the main issues using a common format, before concluding with a final recommendation and any proposed conditions.

Such Reports are the focal point of judicial review litigation before the High Court (termed "the Planning Court"). The legal requirement for additional reasons beyond those set out in the Report is very limited, essentially arising only in cases of refusal or cases of a grant that is contrary to a recommendation to refuse. It is an established principle that Committees follow the recommendations of Officers contained within Reports; decisions will only be overturned where a Report "fundamentally misleads the Committee as to a material fact".

At present, in terms of process, the legal framework assumes that officers carry out all necessary investigations themselves and provide detailed analyses of all relevant issues, exercising "planning judgements" that the courts are slow to interfere with by issuing quashing orders. Fundamentally, the legal framework assumes that the Report is the work of single or corporate human authorship, supplemented where necessary by oral explanation at committee. Reports are by necessity complex, time-consuming and requires frequent legal input. This process is ever more challenging in an era of straitened local government finance.

Technological Change

PlanTech tools are being explored which would identify all applicable development plan policies, coordinate public responses and collect data project by project.

At the same time LegalTech and PropTech tools are being developed to provide predictive text, to identify environmental opportunities and risks, and to analyse large amounts of data.

It is only a matter of time before these trends converge to provide programmes which can write complete sections of Officer Reports, including factual and geographical backgrounds, third-party consultation responses and development plan policy analysis, using existing templates. Such programmes could in due course go further to "suggest" analyses and "recommend" outcomes, in accordance with parameters defined by human authors and checked by officers.

The practical advantages are clear in terms of time-saving and data collection. However, potential legal and ethical risks are already discernible: precedent-dictated bias, deskilling of the planning profession, erosion of public trust, systemic error.

The statutory boundary for the involvement of such technologies within existing legislation is therefore a pressing question; one that will not only drive and shape investment in this industry but also create early flashpoints through litigation and early regulation initiatives.

Structure

The paper begins with a structured analysis of existing technologies and the technological eco-system in the UK and specifically England: Central Government support through the "Catapult" system, local government funding and academic support. This section will also examine technologies being assembled in other jurisdictions, especially the USA.

The paper continues with a detailed analysis of the existing primary and secondary legislation in this area, especially the Town and Country Planning Act 1990 and the various Regulations governing development control. The key case law on decision-making is summarised, including recent UK Supreme Court authority.

The paper then examines five stages of involvement of artificial intelligence: (1) validation; (2) investigation; (3) consultation; (4) report-writing; and (5) final decision-making. The paper seeks to identify the lawful limits upon the use of technology at each stage.

It concludes by proposing an analytical framework for testing current products prior to coming to market. The importance of understanding international trends and jurisdictional trends is emphasised. Finally, the paper makes recommendations for key legislative changes, with specialist input from planning, legal and property professionals and academics.

Abstract of Contribution 190

ID: 190
General Paper
Keywords: citizen science, natural disaster, drone, artificial intelligence, community resiliency

Combating disasters through citizen science, drone technology, and artificial intelligence

Yalong Pi, Nipun Nath, Amir Behzadan

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Disasters impact the environmental, social, economic, and political landscapes of communities when they strike. Certain population groups especially from underrepresented minorities and/or those who live in low-income neighborhoods are particularly vulnerable in these situations, as they experience more difficulty in recovering from physical damage to self and property. Research highlights the importance of several factors to the timeliness and effectiveness of response and recovery efforts, including the economic conditions, insurance coverage (e.g., health, property, flood), presence of and collaboration among non-governmental organizations (NGOs), federal and local government rules and ordinances, and influence of social media and news coverage. The common denominator of all disaster response and recovery efforts is that they can tremendously benefit from prompt and accurate information from the scene. While such information is crucial for search and rescue, reconnaissance, and rebuild efforts, if collected properly and with minimum bias, it also ensures an equitable and impartial distribution of resources among all social groups, thus combating social inequity. In recent years, the term “citizen science” has been coined to describe ordinary people rallying themselves to do things that change the face of science. When combined with the latest information sharing technologies such as social media and crowdsourcing, citizen science can provide an excellent platform for a trusted bottom-up approach to community resiliency, and create a sense of empowerment in communities that otherwise may feel forgotten by policymakers. In this paper, we present the latest results of our work on enabling citizen science for connecting communities to first responders in the aftermath of natural disasters. In particular, we will showcase project VOLAN which aims at using footage collected by consumer-grade unmanned aerial vehicles (UAVs) from areas affected by natural disasters (e.g., flood, hurricane, earthquake) to automatically detect and track key objects such as trapped people and livestock, submerged vehicles, damaged roofs, and debris. Drones are increasingly becoming a standard means of data collection by ordinary people due to their mobility, ease of use, impartiality, and maneuverability. Visual footage captured by drones is of great value to impacted communities as it increases the likelihood of saving lives and valuable assets, as well as a tremendous help to first responders, search and rescue units, law enforcement, and urban policy-makers in charge of design and implementation of disaster risk mitigation and response plans for municipalities across the U.S. In addition to a discussion of computer techniques and artificial intelligence methods designed in this project, this paper will also describe a video dataset containing ~60,000 images with ~1.3 million tags collected from hurricanes Harvey, Irma, and Maria. We apply deep learning and transfer learning algorithms to build a model that can detect target objects in drone footage in real-time (>30 images per second). Project VOLAN is sought to be a key component of disaster response as it provides an efficient and accurate technique for ordinary people to collect disaster-related information that can be readily shared with the general public, government agencies, and NGOs in charge of disaster response, recovery, and rebuild efforts.

8:30a – 10:15a, Thursday, February 21, 2019

Housing 1: 199, 222 (Jourdan moderating)

Abstract of Contribution 199

ID: 199
General Paper
Keywords: Constitutional Conflict; Housing Rights, Environmental Protection, Informal Settlements, Brazil

Legal Institutions and the Planning Process: Conflicts between the Right to Housing and Environmental Protection in São Paulo’s Informal Settlements

Ana Paula Pimentel Walker, María Arguero de Alarcón

University of Michigan, United States of America

In the Global South, courts became central actors in protecting the socioeconomic rights of vulnerable populations. The judicialization of social policy also encompasses environmental rights. In Latin America, Brazil has been the country that invested the most in building environmental enforcement capacity. Simultaneously, federal land use laws such as the 2001 City Statute facilitate tenure security and land regularization in favelas. Thus, Brazilian courts must resolve legal conflicts between two fundamental rights secured by the 1988 Brazilian Federal Constitution: the right to adequate housing and the right to a clean and ecologically cohesive environment.

Using the city of São Paulo as reference, we investigate how the Judiciary Power and Courts take on the role of urban planners in providing solutions to problems of environmental degradation and risk in urban areas informally occupied by low-income families via precarious constructions. We searched the online database of São Paulo's Superior Justice Court for cases that had an appeal under consideration between the years of 2013 and 2016. We identified 40 court cases involving informal housing in areas of environmental protection.

The municipality serves as defendant in 43 percent of the cases, but as plaintiff in less than 19 percent, demonstrating a lack of capacity to solve these urban land conflicts. We developed indices of access to justice and gentrification. Informal dwellers rarely receive prompt legal representation. A mapping tool spatializes the court cases and key findings. Whether or not the lawsuits result in eviction, court proceedings do not incorporate environmental assessment of the site current ecological conditions.

Abstract of Contribution 222

ID: 222
General Paper
Keywords: Canada, human rights, municipalities, Alberta

Human rights and Canadian cities

Sandeep Agrawal

University of Alberta, Canada

Applying human rights legislation to government action, including challenges to municipalities, is a growing trend in Canada. Further, inconsistency with human rights legislation is a serious constitutional and legal violation and, above all, a moral issue. Within such a context, this study presents a systematic evaluation of the soundness of bylaws related to land use in municipalities in the province of Alberta in Canada in relation to the Alberta Human Rights Act and the Canadian Charter of Rights and Freedoms. It also compares human rights against Lefebvre's idea of right to the city. This study used a mixed-methods approach, which included a four-step process that allowed us to identify which parts of the municipal zoning bylaw and plans have been contentious or could potentially violate the human and Charter rights. Specifically, we did the following: 1. Reviewed past court decisions of and any ongoing litigation at Alberta Human Rights Commission. 2. Interviewed municipal officials to identify any potential issues they see and ascertain their views, awareness, and knowledge of human rights requirements and the Charter. We also gathered media accounts of the cases in the municipalities under study. 3. We systematically analyzed parts of the municipal plans and bylaws identified as potentially inconsistent with human rights. We applied the previously developed instrument (Agrawal 2013, 2014), which includes two tests: the Meiorin test for the human rights analysis and the Andrews test for the Charter analysis; and 4. To guide and oversee our work, we assembled an advisory committee comprising a local lawyer with expertise in human rights, a human rights advocate, and a staff member of the Alberta Human Rights Commission. The study concludes that the Canadian state has taken the lead in guaranteeing its citizens the right to the city and all the related rights that attend this. Concomitantly, Alberta municipalities have made significant progress on the human rights front. However, they are facing two sets of potential human rights challenges. One set is the perennial and outstanding issues of inclusion of user characteristics and minimum separation distances in the zoning bylaw, inadequate provision of various forms of affordable and supportive housing, and limits on freedom of expressions on municipal properties arising out of court challenges premised on human rights and Sections 1 (reasonable limits on rights), 2 (right to expression, religion and peaceful assembly), 7 (right to life, liberty and security) and 15 (right to equality) Charter rights. The other set of issues is created due to recent changes to federal legislation giving rise to new issues such as locating safe injection sites, methadone clinics and cannabis dispensaries.

Compensation Schemes: 123, 127, 207 (Pellach moderating)

Abstract of Contribution 123

ID: 123
General Paper
Keywords: zoning restriction, compensation, land use plan, Poland, Switzerland

Rules governing compensation for zoning restrictions under Polish and Swiss law

Piotr Walas

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While spatial planning is essential, it also leads unavoidably to important conflicts. On one side there is public, general, interest, on the other side there is private, individual, interest. A land use plan might declare certain land uses as admissible while others as non-admissible. The most basic example is a land use plan declaring a real property as constructible or as non-constructible.

In general, no fault can be assigned to any owner for the adopted spatial planning restrictions. As a rule such restrictions constitute a lawful measure – an owner cannot invalidate them in court. Therefore, should an owner with less favorable situation (e.g. the one whose land was declared as non-constructible) be compensated?

Answer to this question is enshrined in regulations concerning compensation for zoning restrictions. The author deals professionally with rules governing compensation for zoning restrictions in Polish law. There is no doubt about the significance of this regulation. However, author's practice indicates Polish legislative solutions are more than imperfect. In the presentation Polish solutions will be compared with Swiss ones. Switzerland belongs to the

same (as Poland) European legal culture, which facilitates comparative research. Moreover, the country is known for high legislative culture, which is a result of greater legal stability as well as different socio-economic reality than in Poland.

Generally, according to Swiss case law, compensation for zoning restrictions is due only in a very limited number of cases. However, once compensation is due, it is equal in value to the entire amount of the damage inflicted. Polish regulations are significantly different – the scope of responsibility is much broader. Nevertheless, once compensation is due, it comprises only actual damage, without loss of profit. The presentation will discuss in detail some of the most interesting differences between two systems. together with examples illustrating their practical meaning. The whole content will be based on author's master thesis entitled *"Rules governing compensation for zoning restrictions under Polish and Swiss law"* defended successfully (score 6/6) in August 2018 at École Polytechnique Fédérale de Lausanne.

Abstract of Contribution 127

ID: 127
General Paper
Keywords: property law, land subdivision, property rights

Planning considerations in the law of adverse possession

Eran Kaplinsky

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Adverse possession (or "prescription", as it is known in continental law), allows a trespasser on the land to acquire, in time, a right good against the world, including the title holder. Adverse possession has been likened to a "bloodless coup d'état" and its justifications are routinely discussed in the literature (Katz, 2010). In the Canadian province of Alberta, the doctrine of adverse possession operates as a defence available to the trespasser against an action to recover possession of the land by the registered title holder. For the defence to succeed, the trespasser must satisfy the standards of possession established by the case law, while the limitation period and the priorities of the title holder's and trespasser's claims are defined by legislation. Generally speaking, if the title holder fails to seek a remedial order within 10 years of being dispossessed, then the person in possession at the end of that period is entitled to immunity from liability to the title holder upon pleading the statutory defence.

Recently, a straightforward dispute between neighbours over a wrongly positioned fence, resulted in a successful claim of adverse possession by the trespassers (Moore v McIndoe, 2018). However, the judge in that case determined that because the trespassers are entitled at common law only to the land actually possessed, the judgment quieting title in respect of a partial encroachment effects a "subdivision" of the affected parcel and may not be registered on title without the approval of the local land subdivision authority. The decision is based on a controversial interpretation of the applicable statutes and has interesting and potentially far-reaching implications on the rights of landowners, and more broadly on the relationship between property law and planning – implications which this paper proposes to reconcile.

Abstract of Contribution 207

ID: 207
General Paper
Keywords: airport nuisance, compensation, loss of value

Noisy skies and crowded cities – comparative remarks on the dilemmas in compensating homeowners for airport nuisance.

Magdalena Habdas

University of Silesia, Poland

The operation of airports causes positive and negative externalities for owners of real estate located in their vicinity. Residential uses of real estate are usually the ones most sensitive to any negative changes in the surrounding environment. Airport nuisance, associated mostly with higher noise levels, is becoming increasingly onerous to homeowners as air transport develops and airports enlarge the volume of operations. The affected parties seek redress for various negative effects of this phenomenon with the use of legal instruments that exist either in general legal provisions or have been specially enacted to deal with these issues. The legislator must thus choose if a dedicated regime of compensation for negative airport externalities needs to be implemented. If so, important decisions need to be made as to the scope of compensable loss. The latter will also need to be considered if aggrieved homeowners wish to rely on more general remedies afforded by tort law (often the doctrine of nuisance). The paper examines the problems and practices in compensating for airport nuisance in selected European countries as well as selected US state jurisdictions in an attempt to identify the most reasonable (i.e. economically efficient and simultaneously legally acceptable) solution to balancing the interests of expanding air travel and the interests of real estate owners. The point of departure is the situation of developing Polish regional airports in the context of legislative solutions and judicial practice.

Flooding 2: 144, 122, 111, 159 (Slavikova moderating)

Abstract of Contribution 144

ID: 144
General Paper
Keywords: Flood protection, experimental design, negotiations, property rights

Property rights in flood protection: Experimental design of upstream/downstream negotiations

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[1]Jan Evangelista Purkyne University in Usti nad Labem; [2]Wageningen University & Research

Climate change is contributing to increasing occurrence and severity of flooding. Affected municipalities deal with the issue by constructing local flood-protection systems in a form of barriers and lately also in a form of nature-based solutions. These measures are typically built in downstream cities, which are the ones most affected by flooding. However, the current setting is usually not the most efficient in terms of cost and spatial planning. Lower effort is required to retain water (at least partly) in municipalities located upstream in the catchment. Ideal flood-protection system consists of a combination of upstream and downstream measures. The reason upstream cities rarely build water retention measures is an imperfect division of property rights. To upstream cities, damage caused by flooding in the downstream areas are only external costs that they are currently not responsible for. This opens room for negotiation. In current setting, downstream cities may offer payment to municipalities located upstream in an exchange for a construction of retention measures. If the prevented damage costs outweigh the payment and negotiation costs the outcome may be profitable for both sides.

This contribution presents an experimental design that allows to test ability of relevant stakeholders to find a suitable flood-protection mechanism under various circumstances. Upstream/downstream representatives (river basin managers and mayors) are repeatedly asked to negotiate about the most efficient flood-protection system while property rights differ in each situation. The scenarios follow the Cultural Theory and cover the whole spectrum of possible institutional settings starting with “everyone pays own costs” over “shared costs” to the “polluter pays principle” and also implement an option of insurance. After the experiment, in-depth interviews provide a feedback from the involved stakeholders. Experience gained should help the stakeholders in planning an optimum institutional setting for flood protection in an upstream/downstream context.

Abstract of Contribution 122

ID: 122
General Paper
Keywords: floods, prevention, flood hazard maps and risk maps, pre-emption right, property rights

Flood prevention in Serbia

Sofija Nikolic Popadic

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Serbia suffered major flood events in May 2014, which affected 1.6 million people. The Government declared a state of emergency for the territory of the whole country. The total value of disaster was 1.7 billion Euros. After that the focus was on recovery through several programs, special Law on Post-Flood rehabilitation, projects, international aid and loans. What was done in the meantime in order to prevent similar events? Is the focus still on traditional flood protection or there has been some changes? What problems occur in practice, especial regarding implementation of certain instruments and measures?

Water law in Serbia is mostly harmonized with EU directives, but the process of implementation is still ongoing. Flood hazard maps and risk maps, as a precondition for flood risk management plans, were separately made as a part of specific projects for certain rivers. This year the process of preparation of maps for the whole country has started, aiming to be finished by 2020. Thereafter the boundaries of flood risk areas should be included into spatial and urban plans improving the current planning system based on a document issued by public water management company.

Obtaining the land for flood risk management could be a way to approach this issue from a different perspective. One of the potential instruments, although not yet implemented, but legally regulated, is a pre-emption right of waterfront land. That could enable control over waterfront land and its use for flood risk management. Projects for designation of potential retention zones are another possibility to make space for water and reduce the risk, which require new legal regulations in order to be applied in practice. Mostly used instrument for obtaining the land for flood protection is expropriation. According to recant cases that land is still mainly used for river regulation, dikes, and other traditional flood protection measures. All those instruments are affecting property rights making the way of regulating of these issues very delicate. The research is based on analysis of legal regulations, relevant literature, analysis of the practice of the state authorities at the national and local level and interviews with the relevant stakeholders in order to perceive this issue from different aspects, to identify problems and recommendations for improvements.

Abstract of Contribution 111

ID: 111
General Paper
Keywords: Flood risk management, Instruments, Water, Germany

Getting land for flood risk management – A legal and policy analysis of formal instruments in Germany

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Flood risk management requires more land than traditional flood protection. Land for polders and retention basins along the streams and rivers, but also land in the hinterland to retain water and even within cities and villages it can be necessary to restrict land uses. Getting this land means intervening in – often private – property rights.

Germany has experienced a couple of major river flood events in the past decades – in the 1990 at the Rhine and tributaries, later at the Odra, in 2002 at the Elbe and Danube and in 2013 again. Almost all of these events triggered a reform of water law and related legislation (notably spatial planning), aiming to improve flood risk management. But are the existing instruments to procure land also sufficient for the implementation of the identified measures of flood risk management? Important instruments for getting land are, for instance, expropriation, re-allocation of rural land, pre-emption, acquisition and exchange of land.

This contribution provides an inventory of the legal instruments available to get land for flood risk management in Germany. For the analysis, German Federal law as well as selected law of the states ("Bundesländer") are assessed. The existing instruments are evaluated using juridical analysis and policy analysis to understand the suitability of the formal instruments to foster flood risk management.

Abstract of Contribution 159

10:45a – 12:30p, Thursday, February 21, 2019

Energy and the Environment: 110, 150, 155 (Strauss moderating)

Abstract of Contribution 110

ID: 110
General Paper
Keywords: Energy transition Land use change Externalities Netherlands

LAND USE CONFLICTS IN THE ENERGY TRANSITION: DUTCH DILEMMAS

Mark Koelman[1], Thomas Hartmann[2,3], Tejo Spit[1]

[1]Utrecht University, Netherlands, The; [2]University of Wageningen (NL),; [3]Universiteit Jan Evangelista Purkyně (CZ)

The transition from fossil to renewable energy needs changes in land use. The development of renewable energy sources introduce extra and sometimes new externalities, such as shadows and noise on landscape. There are governments who are experiencing difficulties when developing renewable energy sources especially when existing land owners (and others) start anticipating on those externalities. Therewith, land use conflicts have become a major issue for governments in meeting renewable energy policy objectives. This paper explores the way how three dilemmas: tiers of government dilemma, mode of governance dilemma and norm-setting dilemma are approached by public authorities using policy documents, interviews, literature research and examples of the Dutch energy transition.

Abstract of Contribution 150

ID: 150
General Paper
Keywords: Shale, zoning, local government, oil and gas, hydraulic fracturing, fracking

City involvement in oil and gas permitting decisions: What a difference a border makes

Heidi Gorovitz Robertson

Cleveland State University, Cleveland-Marshall College of Law, United States of America

Local governments in many of the U.S. states face increasing pressure on their authority to control or influence decision-making regarding how their land is used, especially with respect to shale oil and gas development. I've written about the efforts of local governments to have a voice in the shale oil and gas permitting decisions affecting their jurisdictions[1] and about the role of landowners whose land is added to oil and gas drilling units by government order against their wishes.[2] These articles dealt, in part, with the erosion of decision-making control that is felt by landowners and by local governments associated with the rise of natural gas production. As states work to create easy access to their economies, landowners and local governments struggle to retain control over the planning and property rights that should belong to them.

To date, I've studied these issues only in the United States. I've recently become aware of similar controversies and tensions playing out in our neighbor, Canada. In particular, (like New York State) in September 2014, Nova Scotia, a Canadian Province in Atlantic Canada, banned the practice of hydraulic fracturing. (New York state banned the practice administratively, whereas Nova Scotia banned it by provincial legislation.) This ban made it essentially impossible for Nova Scotia to develop the abundant shale oil and gas resources the Canadian energy department determined was located there. A study had been done by faculty at Cape Breton University to take the pulse of Nova Scotians on the issue and determined that there was not sufficient support for hydraulic fracturing and instead, the populace was largely against it. Based in part on this study, the provincial government passed legislation banning use of the hydraulic fracturing technology.

Nova Scotia's ban was effective in September 2014, and public discussion of hydraulic fracturing mostly subsided until January 2018. At that time, Maritimes Energy Association urged the Nova Scotia government to reconsider the ban following the release of a new Energy Department analysis that found the province's shale gas potential to be worth between $13 and $40 billion USD.

Unsurprisingly, some Nova Scotians disagreed with the decision, and some Nova Scotian local governments disagreed. Specifically, the municipality of Guysborough hoped to take advantage of the potential economic boon that shale oil and gas development could bring to its region. Guysborough, although involved in energy processing, wants fracking allowed because it seeks capitalize on its processing expertise and existing facilities to become a processor for extracted local shale resources. Guysborough has asked neighboring municipalities and townships to join it in asking the provincial government to reconsider the fracking ban. To date, only the Town of Mulgrave agreed to contact the provincial government to request reversal of the fracking ban. The town council for the Town of Antigonish unanimously declined to join Guysborough's effort.

This question of what role a local government should play has been answered differently in various U.S. jurisdictions. In Pennsylvania, for example, many local governments wanted to exert control over some drilling decisions, and the question was whether they had the authority to do so under state law. Pennsylvania's highest court ruled on state constitutional grounds that the local governments could exert control via zoning. New York's highest court said that local governments could ban fracking, though New York's state government ultimately banned it administratively. In Nova Scotia, essentially the reverse is happening. The province has banned what the local government seeks to allow.

Should local governments be allowed to decide for themselves whether fracking takes place within their jurisdictions? This project will consider this question as it applies in various U.S. jurisdictions and will compare that to several jurisdictions across the border in Canada.

[1] Heidi G. Robertson, *When States' Legislation and Constitutions Collide with Angry Locals: Shale Oil and Gas Development and its Many Masters*, 41 WM. & MARY ENVTL. L. & POL'Y REV. 55 (2016).

[2] Heidi G. Robertson, *Get out from under my land! Hydraulic Fracturing, Unitization, and the Role of the Dissenting Landowner* (work in progress).

Abstract of Contribution 155

ID: 155
General Paper
Keywords: trees protection, private property, urban development, polyrationality theory

Trees in the Planned and Unplanned City: A Comparative Legal Analysis

Yifat Holzman-Gazit

College of Management Academic Studies, Israel

Urban trees have a powerful impact on health, well-being and climate change. The treatment of trees is thus an important issue for the future of sustainable and healthy cities. Three notions in favor of city trees form the basis for this paper: First, trees play an essential role in human's urban life. Second, trees need to be integrated with the function and pattern of urban activity. Third, the design, placement and maintenance of trees in cities are the responsibility of both governments and residents.

The paper presents a comparative analysis of various legal means that address the goal of preservation of existing trees and plantation of new trees in urban communities. The measures include tree-protection legislation, planning regulations and property rules. The analysis will cover the following locations: Toronto, Cape Town, Tel-Aviv and New York. Specific attention will be given to the interplay between law, planning and property rights with respect to protection and replacement of city trees on private land. Private trees pose a more dramatic dilemma about the appropriateness of legal enforcement and planning regulation. On the one hand, the contribution of city trees to climate change mitigation and to the well-being of urban communities is not affected by their legal classification as private. On the other hand, property rules suggest that homeowners have a right to control

activities on their own land. One purpose of the comparative analysis is to produce a scale of different levels of balance between these concerns with respect to private trees. Benjamin Davy's theory of polyrational property will serve as a conceptual framework to compare the various legal means of private trees protection and their account for plural rationalities of common and private property relations in urban land.

Flooding 1: 101,102, 166, 175 (Norton, moderating)

Abstract of Contribution 101

ID: 101
Special Session: Responding to Climate Change
Keywords: Flood, inverse leashold, property rights

Flood Risk Management: An Australian Perspective on property rights-focussed instruments

John Sheehan[1], Ken Rayner[2], Jasper Brown[3]

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Flood risk management must of necessity, recognise that flood-prone areas are more often than not held under private property rights. These key private stakeholders are crucial to the effectiveness of any instrument for flood risk and hence directly impact on the effectiveness of flood management and yet, private property rights are rarely highlighted in such schema. Also, the location of flood-prone areas upstream or downstream provides an important impulse for the selection of the appropriate instrument to achieve flood risk management.

Australian field research by the authors suggests such management schemes can be effective using Transferable Development Rights (TDRs) in downstream flood-prone urban areas and inverse leaseholds in upstream non-urban areas. However, this paper focuses primarily on the use of inverse leaseholds as an innovative instrument for non-urban upstream flood-prone areas, rather than TDRs or compulsory acquisition which are arguably more suitable in down-stream urban flood-prone areas. Yet, overall compulsory acquisition for the purpose of flood risk management is a blunt and expensive tool.

However, land in upstream non-urban areas in Australia and unsurprisingly in Europe, is on the whole used for purposes such as agriculture or forestry. The value of these upstream non-urban lands is drawn from their economic utility as agricultural or forestry enterprises, and hence capital worth is associated with the actual use of the land holding. This situation is different from downstream urban lands where generally the land value is closely linked to the capital growth potential of the land in situ. For example, land used for commercial or residential purposes in downstream urban locations albeit flood prone invariably has a potential for uplifting value through intensification in some manner or other of the built form.

So, the worth of upstream non-urban land is a mirror of the agricultural or forestry capacity of the land, and not its potential as capital investment. If such private lands are increasingly being inundated by flood waters, the requisite response is one of seeking that the private land is available for temporary flood retention in part or whole, or in extreme circumstances for permanent flood water retention through impoundment. However, uncertainty as to when such private lands may be partially or wholly inundated, leads to a questionable need for compulsory acquisition.

An alternative to inherently expensive compulsory acquisition which recognises the uncertainty of flood propensity is the instrument broadly understood (and known) as inverse leasehold. This instrument involves the private landowner transferring land to a government agency in title, in return for the grant of a lease to the landowner for a long term but on conditions which recognise the likelihood of possible flood inundation over some or all of the land at indeterminate intervals. If a flood event does not occur the former landowner (now lessee) can use the land for its fullest agricultural or forest capacity, and yet the agency does not have to pay compensation funds should the land becomes flooded as anticipated.

The private landowner in joining an inverse leasehold scheme receives a capital sum at the commencement of the lease representing a fractional payment of the land value, and also receives an annual or capitalised rental payment from the agency – hence the arrangement is known as an inverse leasehold. The benefit for the government agency is that the private land required for indeterminate flood retention has been efficaciously procured at minimal cost, and yet in the conditions of the inverse lease it is agreed between the parties at indeterminate periods during the term of the lease some or all the former private land may not be producing an income from agricultural or forestry endeavours for which no compensation is paid.

Abstract of Contribution 102

ID: 102
Special Session: Responding to Climate Change
Keywords: land use, climate change, resilience, sustainable development, disaster

FIFTY SHADES OF GRAY INFRASTRUCTURE: LAND USE & THE FAILURE TO CREATE RESILIENT CITIES

Jonathan Rosenbloom

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Land use laws, such as comprehensive plans, site plan reviews, zoning, and building codes, greatly affect community resilience to climate change. One often-overlooked area of land use law that is essential to community resilience is the regulation of infrastructure on private property. These regulations set standards for infrastructure built by private developers. Such infrastructure is completed in conjunction with millions of commercial and residential projects and is necessary for critical services, including potable water and energy distribution. Throughout the fifty states, these land use laws regulating infrastructure constructed by private developers encourage or compel “gray infrastructure.” Marked by human-made, engineered solutions, including pipes, culverts, and detention basins, gray infrastructure reflects a desire to control, remove, and manipulate ecosystems. Left untouched, often these ecosystems provide critical services that strengthen a community’s resilience to disasters and slow changes. This presentation

would describe the current state of land use laws and their focus on human-engineered, gray infrastructure developed as part of private projects. It would explore how that infrastructure is reducing community resilience to change. By creatively combining human-engineered solutions with ecosystem services already available and by incorporating adaptive governance into the regulation of infrastructure erected by private parties, the presentation would describe how land use laws can enhance community resilience. The presentation would conclude with several examples where land use laws are relied upon to help build cost-effective, adaptive infrastructure to create more resilient communities, including a short presentation on the being-developed Sustainable Development Code.

Thank you for your consideration.

Abstract of Contribution 166

ID: 166
General Paper
Keywords: local law, blue-green infrastructure, climate change adaptation

Blue-green infrastructure as a tool within the framework of climate change adaptation in selected Polish cities

Małgorzata Urszula Bartyna-Zielinska/Bartyna

Wrocław University of Technology, Poland

In the paper, the author is searching for an answer how blue and green infrastructure could play the important role in climate change adaptation process in the cities. The author starts with analyzing the regulations promoting green infrastructure in strategic documents and in the local law of the biggest Polish cities and how these regulations are implemented in projects, on an investment level. The main focus is on Wroclaw city, taken as an example. Solutions and regulations from Wroclaw are compared to regulations used in other big cities in Poland.

First, the city strategies and master plans are analyzed, especially the importance of blue-green infrastructure is in these documents. Then there are analyzed regulations in local plans, resolutions and mayoral ordinances in terms of blue-green infrastructure promotion and possible implementation. The next step is the implementation of projects and investments – public and private.

As a result, the author gets information about approach towards green infrastructure in Poland. First of all, whether is it treated as a tool in climate change adaptation process and what incentives are used to promote and increase the use of green infrastructure solutions in cities investments and project.

The crucial part is the comparison in terms of local law regulations promoting green infrastructure between the cities together with presentation whether these solutions work or need some corrections.

In the second part of the paper, there are presented examples of selected cities from Europe and the United States leading in green infrastructure implementation followed by suggestions how to implement these solutions in Polish cities, in accordance with Polish law and restrictions.

Abstract of Contribution 175

ID: 175
General Paper
Keywords: natural water retention measures, private land, pools, Czech Republic

Different approaches to implementation of natural water retention measures on private land

Lenka Slavikova, Pavel Raska

J.E.Purkyne University in Usti nad Labem, Czech Republic

In continental Europe, natural water retention measures (NRWM) are often initiated by river basin authorities or nature protection agencies, implemented in cooperation with multiple public bodies and supported with public engagement processes and public funding. Owners of the involved land represent key stakeholder group to be addressed. They might oppose the realization of these measures (regardless the public interest) when not properly treated. Hereby, planners' and decision-makers' intentions are often delayed or even blocked by property right arrangements. For this reason, the situations, where land owners themselves take the initiative and realize NWRM on their own land should gain increasing attention.

The contribution compares three planning and implementation practices of pool restoration on agricultural land (to increase water retention) in the Czech Republic, the central European country. We compare: a) privately funded measure realized on private land, b) publicly funded measure realized on private land, c) mixed-funded measure realized on collectively owned land. Through in-depths case studies we compare motivations of land owners and undertaken decision-making and planning procedures. We discuss the scaling-up potential of described cases.

1:30p – 3:15p, Thursday, February 21, 2019

Housing 2: 124, 201, 213 (Hartmann moderating)

Abstract of Contribution 124

ID: 124
General Paper
Keywords: Housing opportunity, regionalism, judicial enforcement, exclusionary zoning

Mount Laurel and Housing Opportunity

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Sometimes apparently obscure local events can change the face of planning and law in fundamental ways. This happened in the early 1970s in Mount Laurel New Jersey a then fast-growing suburb of Philadelphia in the southern part of the state. A group of African-American residence, who traced their lineage in Mount Laurel to the pre-civil war underground Railway we're living in extremely substandard conditions like chicken coops and other dilapidated facilities. They asked the township governing body for assistance in submitting an application for affordable housing. The response: if you can't afford to live here, leave.

Ethel Lawrence and the Southern Burlington County NAACP went to the regional Legal Services organization which took their case. Initially, prospects were not too encouraging since the Supreme Court of New Jersey had previously upheld 5 acre zoning, exclusion of apartments, requirements for minimum house sizes and the like. However the court in 1975 broke new ground, declaring housing to be a fundamental right under the New Jersey state constitution. It stated that towns could not use their zoning power to ignore the housing needs of the region, that the general welfare which zoning was supposed to preserve included regional as well as local needs. While academic leaders, such as Charles Haar and Norman Williams and advocacy planners like Paul Davidoff had raised this issue, no court had ever voided a locality's zoning ordinance for failure to respond to the housing needs of its region.

This decision engendered substantial resistance from New Jersey's suburban towns. As a result, in 1983, the Supreme Court rendered it second Mount Laurel decision in which it laid down definitive guidelines for compliance. It stated that towns had to meet specific Fair shares. Further, builders who were willing to provide a 20% set aside of low and moderate-income houses could get approval for their projects regardless of local zoning if the builders proved that the towns had not met their Fair shares. Since few towns had complied, this ruling had an enormous impact.

In 1985 the legislature adopted the so-called Fair Housing Act which was designed to blunt this builder's remedy. Nonetheless between 1987 and 1989 under the guidance of the new Council on Affordable Housing (COAH), which replaced the Courts, there was a great deal of progress. Fair shares were set, plans were approved and housing construction did commence. COAH established regulations governing details with respect to affordable housing that many places are just now beginning to address. For example it enacted regulations governing the prices of affordable units, the number of bedrooms they should contain, the range of incomes they should address, the kinds of deed restrictions that were necessary to enforce the affordable housing requirements, affirmative marketing of such units and family sizes for such units. These regulations remain in effect.

Progress was delayed by gubernatorial and Municipal resistance between 2000 and 2015. COAH lapsed into inactivity. However in 2015, the Supreme Court of New Jersey again reentered the fray. It held that the administrative process had become a sham and that the courts had to step in to start establishing Fair shares and enforce the doctrine. As a result in just over two years, there have been over 200 fair share of settlements. Only 90 significant towns remains to be resolved.

What factors underlie this unusual experiment in judicial enforcement of regional housing planning goals. First, the New Jersey Supreme Court is appointed not elected. Its justices do not have to worry about their affordable housing platform as an election issue. Further, initially legal services and now the Fair Share Housing Center have provided strong non-profit support for the doctrine., even when builders were quiescent. In fact that the Fair Share Housing Center has been specifically designated as a party in every Mount Laurel case by the Supreme Court. Third, New Jersey has no unincorporated areas. Thus the court can act directly on 565 municipalities without having to deal with the complexity of different levels of government.

The doctrine has not been a panacea. Rather few urban citizens of color have moved into Mount Laurel houses. However, there have been some real success stories. Literature on the all affordable development in Mount Laurel itself suggests that its residents have achieved better educational, financial and quality of life outcomes then they most likely would have had they remained in the inner city of Camden.

Planners now should study this exercise in a combination of planning and law. Are the factors that impelled it in New Jersey applicable to other places and other countries. Are there other planning requirements that could also take advantage of this combination of planning idealism and legal enforcement. This author hopes that such study does take place. For the Mount Laurel Doctrine, albeit imperfect, suggests hopeful paths to achieve social equity through planning and law.

Abstract of Contribution 201

ID: 201
General Paper
Keywords: Housing, preemption, zoning, planning

Housing Affordability and State Preemption of Local Land Use Regulation: Evidence and Lessons from the Northeastern United States

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Housing has become increasingly unaffordable in parts of the United States, leading to calls for state governments to preempt local land-use regulation in order to overcome opposition to new housing. Several northeastern states have extensive experience with preemption via a state affordable housing appeals system (SAHAS), and this article assesses whether the available evidence is consistent with claims that a SAHAS can improve housing affordability. It describes the essential attributes of a SAHAS and then provides relevant empirical evidence by: (1) comparing below-market-rate (BMR) housing stock in parts of selected core-based statistical areas in Connecticut, Massachusetts, New Jersey, and Rhode Island, each of which has a SAHAS; (2) using multivariable regression to compare changes in the combined stock of BMR and market-rate (MR) multifamily rental units in SAHAS states and a non-SAHAS state (New York); (3) presenting data on the costs of MR rental units produced under the Massachusetts SAHAS, in order to assess whether such units are affordable to households with incomes at or below the area median. These analyses provide evidence consistent with prior claims that a SAHAS can spur the production of BMR housing and moderately priced multifamily MR rental units, and that the Massachusetts SAHAS has been particularly effective.

Abstract of Contribution 213

ID: 213
General Paper
Keywords: Land policy, densification, institutional opportunism

Densification in the Netherlands: How institutional opportunism fosters a strategic land policy against inner-urban development

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The main part of new housing developments in the Netherlands in the last 10 years can be characterized as densification within the existing urban areas (Broitman & Koomen, 2015). This is in line with the global trend of urbanization and in line with the Dutch planning and land policy. Since the rapid recovery from the housing and economic crisis in 2008, a huge housing shortage in urban areas dominates spatial planning in the Netherlands. In practice this led to accelerated greenfield development. While there still is substantial potential for realizing housing via densification (Duinen et al., 2016), greenfield development is increasingly put forward as a solution for rapidly increase housing production. These developments threaten the implementation of national urban policy goals for densification.

This contribution explores to what extend the tension of prioritizing urban expansion over densification has its roots in land policy – in particular in the way Dutch municipalities act on land markets strategically. Housing developments on greenfield locations outside the city, namely, are perceived to be easier, mostly because the land has been actively acquired by the municipality and developers (via “active land policy”) (Adams & Hutchison 2000; Louw, 2008). There seems to be a mismatch between the long term urban policy of densification versus short term housing production via urban sprawl.

To unravel the reasons for the relation between land policy and urban development, a framework of institutional opportunism is engaged. It presumes an opportunistic use of available instruments by local government stakeholders as a result of institutional incentives, with irreversible consequences for the effectiveness of housing policy implementation.

Therefore, a combined qualitative and quantitative empirical research is designed. In depth case-study analyses of housing development strategies of two Dutch municipalities, ‘s-Hertogenbosch and Zwolle are combined with a nation-wide survey of municipal housing development and land policy. Ultimately it will be tested how institutional opportunism influences Dutch housing development and thus densification policies.

Property Rights 2: 158, 182, 216 (Alterman moderating)

Abstract of Contribution 158

ID: 158
General Paper
Keywords: Gray governance, informal planning, displaceability, Amona, Khan Al-Ahmar

Gray Governance: Informality, displaceability, and the territorial logic of power in West Bank

Erez Tzfadia

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"Gray Governance" is proposed as an analytical and descriptive framework for the spatio-legal functions of institutions aiming to realize territorial logic of power, i.e., the collective, substantial and imagined geopolitical interests. Gray governance is relevant to diverse configurations of control and power and is, in particular, supportive of settler-colonialism. The colonial logic of spatial control demands flexibility, dynamism, interpretability and adaptability, thus serving as a 'zone of comfort' for practicing gray governance - obtained through fuzzy and flexible formal and informal planning and (i)legal practices/technologies. It is based on two main concepts: Governance and Gray Space. I will conceptualizes gray governance through two cases of informality and displacement in the West Bank: in Amona and Khan Al-Ahmar. The first is informal Jewish settlement near Ramallah that was evicted in 2017. The second refers to dozen Bedouin-Palestinian communities between Jerusalem and Jericho, that have faced evictions and displacements. Although the communities in Amona and Khan Al-Ahmar are highly displaceable, I consider these two cases are as ordinary exceptions which ease the conceptualization of Gray Governance.

Abstract of Contribution 182

ID: 182
General Paper
Keywords: Informal planning, China, Transit Oriented Development, Gamification

Planning informalities in Chinese cities: adopting innovative land value capture strategies for TOD

Erwin Van der Krabben, Jinshuo Wang, Ary Samsura

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Partly as a response to the current transitional context, many Chinese cities make use of innovative, but informal land value capture instruments to meet the demand of public infrastructure, finding ways to bypass formal procedures underlying processes of land leasing. Informality has become an effective strategy by public sectors in China to deal effectively with changing situations Webster et al., 2016). However, several issues have come up in these practices of informality. The most significant problems involve the risk of abuse and the decreasing credibility of formal institutions, which challenge local governance and development (Kreibich, 2012; Roy, 2012; Varley, 2013). In addition, Roy (2015) critically argues that the state utilizes urban informality as an instrument of both accumulation and authority. Nonetheless, Kreibich (2012) explains that informality might be the symbol of public authorities' inability to regulate and guide rapid urban growth, and the gap left has to be filled by informal institutions. Therefore, it is important to identify the origin and effect of informality in order to figure out possible ways to cope with these challenges.

In this paper we attempt to contribute to the understanding of informality in planning processes in Chinese cities, by focusing on the implementation of innovative land value capture instruments to TOD. We use a gamification approach to analyze in a game simulation carried out for a case study in Shenzhen how two of these informal value capture instruments – inclusive land leasing and land readjustment – can be used to contribute to more effective planning practices.

Abstract of Contribution 216

ID: 216
PhD Workshop
Keywords: Transferable Developments Rights (TDRs), Sustainable Land Use, Climate Change, Market-based Instruments, Urban Sprawl, Comparative Analysis

"Privatizing" Urban Planning: An Examination of the Role of Transferable Development Rights (TDRs) in Flanders from a Comparative Perspective

Johannes Augustinus Nissen, Esther van Zimmeren, Bernard Hubeau, Sigrid Pauwels

The University of Antwerp, Belgium

"Privatizing" Urban Planning: An Examination of the Role of Transferable Development Rights (TDRs) in Flanders from a Comparative Perspective

PLPR Conference 2019

"Preparing for Climate Change in the Planned and Unplanned City"

Johannes Nissen, Esther van Zimmeren, Bernard Hubeau, Sigrid Pauwels,

University of Antwerp

1. Research topic

The introduction of TDRs in Flanders from a comparative perspective.

2. Discipline

The research is situated at the intersection of several legal domains: urban planning law, property law, human rights law, and good governance.

3. Research questions

Research Questions/WP1: What are the primary underlying urban development objectives and what is the policy context for introducing TDRs in Flanders? The research question is answered by examining in a systematic and detailed manner the underlying goals for introducing TDRs in Flanders. This means that the policy background and rationale of introducing TDRs in Flanders will be discussed comprehensively. Also, a conceptual framework for the analysis in the other WPs is created. Part of that conceptual framework deals with the question how to legally qualify TDRs (e.g., property as an exclusive dominion (civil law) v. property as a bundle of rights (common law), servitude v. easement).

Research Questions/WP2: To what extent have TDRs been introduced in some other jurisdictions and what are the primary characteristics of such TDR programs? The research question will be answered by carrying out a comparative legal analysis regarding the role of TDRs in various jurisdictions (the US, France and the Netherlands) to derive lessons for Flanders and to develop a typology of TDR programs. In addition, the origin and use of TDR programs in the three selected jurisdictions will be explored.

Research Questions/WP3: To what extent are TDR programs compatible with the right to property as protected by fundamental human and constitutional rights? This research question will be answered by reviewing the literature and analyzing case law regarding the right to property (article 1, First Protocol European Convention Human Rights (ECHR) and article 16 Belgian Constitution). Therefore, the case law analysis will focus on the most important cases that have been identified in earlier legal doctrine (e.g. Flamey & Valkeniers 2011; Vandenberge 2006; Carss-Frisk 2003) and will continue with a systematic search of the relevant case law starting from 2006 (10-year reference period) in order to safeguard the feasibility of this part of the project.

Research Questions/WP4: What are the strengths and weaknesses of TDRs and is it feasible to introduce TDRs within the current Flemish/Belgian legal framework, and if so to what extent would the legal framework need to be adapted? The strengths and weaknesses of TDRs are identified together with an analysis of the feasibility and evaluation of the introduction of TDRs within the Flemish/Belgian legal framework. The results will also provide an in-depth overview of the legislative challenges for the introduction of TDRs in Flanders. Another aim is to point out exactly which aspects of the current legal Belgian/Flemish framework need to be adapted to enable the introduction of TDRs.

4. Abstract

See also document 1/3.

Transferable Development Rights (TDRs) as an Instrument for Sustainable Land Use? An Exploration of the Potential and Challenges

PLPR Conference 2019

"Preparing for Climate Change in the Planned and Unplanned City"

Esther van Zimmeren, Johannes Nissen, Bernard Hubeau, Sigrid Pauwels,

University of Antwerp

Keywords: Transferable Developments Rights (TDRs), Sustainable Land Use, Climate Change, Market-based Instruments, Urban Sprawl, Comparative Analysis

Abstract

Flanders is one of the most urbanized regions in Europe. It is subject to urban sprawl, which results in highly fragmented landscapes. Ill-conceived and rigid single-use zoning is often blamed for Flanders' surplus of privately owned land that qualifies for future development. In recent years, Flemish policymakers have favored sustainable land use policies with continuous open spaces and core-consolidated cities. In the wake of the UNFCCC Paris Agreement (2015), Flemish MPs have adopted a climate change resolution (2016) unanimously. This resolution recognizes that unsustainable land use, e.g., a high degree of soil sealing and fragmentation, threatens the ability of the Flemish Region to cope with the different manifestations of climate change. The Flemish coalition agreement (2014-2019) of the current Flemish Government has promised to investigate the introduction of transferable development rights (TDRs) as a tool to restructure land use in Flanders. On 20 July 2018, the Flemish ministerial committee approved a preliminary draft of a TDR decree. The Flemish decree will provide a legal basis for local governments to manage regional TDR programs.

The introduction of TDRs as a policy instrument would require an essential policy change for Flanders (cf., e.g., Janssen-Jansen, 2008 regarding the introduction in The Netherlands) (Nissen et al., 2018). TDRs entail a more privatized, adaptive, and market-based approach to the regulation of land use than traditional Euclidean zoning. The underlying principle of TDRs is relatively simple: a government allows the property right and the development right of specific real estate to be legally separable. The development right can then be traded and transferred to other real estate owners. For the system to work as an efficient policy instrument, however, the sending and receiving sites of development should be specific and well-defined. A government can only steer urban development away from open spaces towards city centers by carefully selecting sending and receiving sites. Moreover, safeguards need to be in place to ensure that the system complies with good governance standards and human and constitutional rights for property protection.

In contrast to the United States – where the concept of TDRs originates – there is a lack of systematic academic legal research on TDRs in Flanders. Our paper aims to examine the governance and legal challenges for TDRs in Flanders from a intradisciplinary perspective (i.e. urban planning law, property law) and within an international policy context. The paper starts with a description of the international and European policy context on sustainable land use (Section 1). In Section 2 we explain the Flemish policy context which has resulted in a surplus of developable land due to a "tradition" of incoherent planning. This policy context is compared to the historical context in which TDRs were originally introduced in the US and current TDR practices in the US (e.g., Nelson et al., 2012; Serkin, 2016; Been & Infranca, 2013) (Section 3). In Section 4 we describe different governance and legal challenges related to the introduction of TDRs and we conclude by proposing specific recommendations for the Flemish/Belgian legal system that could also be useful for other jurisdictions.

Key References

1. U.S. SUPREME COURT, Penn Central Trans. Co. v. New York City, 1978, 438 U.S. 104.
2. R. ALTERMANN, Takings International: A Comparative Perspective on Land Use Regulations and Compensation Rights, Chicago: American Bar Association Publications, 2010
3. J.B. BARON, Rescuing the bundle-of-rights metaphor in property law, U. Cin. L. Rev. 2014, 82:1-2 , scholarship.law.uc.edu/uclr/vol82/iss1/2/
4. W. BLACKSTONE en G. SHARSWOOD (ed.), Commentaries on the laws of England. In four books, Philadelphia, J.B. Lippincott Company, 1893
5. V. BEEN and J. INFRANCA, Transferable Development Rights Programs: 'Post-Zoning'?, *Brooklyn Law Review*, 2013, 78, 435-465
6. K. BOFFARD, Transferable Development Rights in New York City, Law school student scholarship paper, scholarship.shu.edu/cgi/viewcontent.cgi?article=1413&context=student_scholarship.
7. E. BYERS en K. MARCHETTI PONTE, The conservation easement handbook, Washington D.C., Island Press, 2005.
8. M.A.M. DIEPERINK, Verhandelbare Ontwikkelingsrechten. Grondbeleidsinstrument voor baatafroming en verevening, Den Haag, Instituut voor Bouwrecht, 2009.
9. E. DOOLEY, E. ROBERTS en S. WUNDER, Land degradation neutrality under the SDGs: National and international implementation of the land degradation neutral world target, Environmental Law Network International (ELNI) Review 2015, 1+2, 2.
10. D.E. GALE, The Transfer of Development Rights: Some Equity Considerations, Urb. L. Ann. 1977, 14:81, 81 - 100, openscholarship.wustl.edu/law_urbanlaw/vol14/iss1/5
11. J. HANLY-FORDE, G. HOMSY, K. LIEBERKNECHT en R. STONE, "Transfer of Development Rights Programs", www.mildredwarner.org/gov-restructuring/privatization/tdr (consulted 12 October 2018)
12. L.B. JANSSEN-JANSEN, Space for space, a transferable development rights initiative for changing the Dutch landscape, *Landscape and urban planning*, 2008, 87, 192-200
13. D.R. JOHNSON, "Reflections on the bundle of rights", Vermont Law Review 2007, 32:249, 26, https://lawreview.vermontlaw.edu/wp-content/uploads/2012/02/johnson2.pdf
14. R.A. JOHNSTON en M.E. MADISON, "From landmarks to landscapes: A Review of Current Practices in The Transfer of Development Rights", Journal of the American Planning Association 2007, 63:3
15. A.C. NELSON, R. PRUETZ en D. WOODRUFF, The TDR handbook: designing and implementing transfer of development rights programs, Washington Covelo London, Island Press, 2012
16. NEW YORK STATE DEPARTMENT OF STATE, Transfer of Development Rights, 2015, dos.ny.gov/lg/publications/Transfer_of_Development_Rights.pdf
17. V. MCCONNELL, E. KOPITS en M. WALLS, How Well Can Markets for Development Rights Work? Evaluating a Farmland Preservation Program, Discussion Paper, March 2003, 7, www.rff.org/files/sharepoint/WorkImages/Download/RFF-DP-03-08.pdf
18. J. NISSEN , B. HUBEAU, S. PAUWELS en E. VAN ZIMMEREN, Een toekomst voor verhandelbare ontwikkelingsrechten in Vlaanderen? Een verkenning van een aantal bestuurlijke en juridische uitdagingen, Tijdschrift voor ruimtelijke ordening en stedenbouw, 2018, 90, 135-157
19. C. SCHROTER-SCHLAACK, Transferable Permits in Spatial Planning: US Experiences and Lessons to Learn for Germany, 7, citeseerx.ist.psu.edu
20. C. SERKIN, Penn Central Take Two, Vanderbilt Public Law Research Paper No. 16-6, 2016, https://ssrn.com/abstract=2728417
21. M. SPAANS, M. VAN DER VEEN en L.B. JANSSEN-JANSEN, The concept of non-financial compensation: What is it, which forms can be distinguished and what can it mean in spatial terms?, Planum - The European Journal of Planning Online, January 2010, www.planum.net
22. M. WALLS, Markets for Development Rights: Lessons Learned From Three Decades of a TDR Program, Paper prepared for UCSB Workshop on Environmental Markets, 2012, 2, www.bren.ucsb.edu/UCE3/Final%20Papers/Walls_UCSB%20TDR%20paper.pdf

Abstract of Contribution 187

ID: 187
General Paper
Keywords: zoning; police power; Euclid v. Ambler

"For the Contrary View: Reconsidering the Substance of the Early Anti-Zoning Decisions"

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When the United States Supreme upheld the constitutionality of municipal zoning in the 1926 Euclid v. Ambler decision, several earlier state court rulings striking down the practice were overruled and consequently discounted. This investiagtion returns to those decisions to assess the consistency of their legal argument and the extent to which the ideas presented in them re-emerged in late twentieth century legal and planning innovations. More specifically, this review will make the argument that these early legal concepts reappared in the Reagan-era (and beyond) conservative turn in the judicial response to land use regulations in general. These resurgent positions invoked the concepts of original intent, natural rights, and substantive due process to reject local restrictions. Furthermore, conclusions on the negative impact, and illogic, of zoning from a social perspective that were articulated in these early cases reappeared in the New Urbanism movement.

This set of early cases consists of about 15 decisions from eight different state courts. While other accounts have acknowledged the existence of legal and social resistance to zoning, none have assessed this body of case law as a whole, nor has the reemergence of these prior ideas in current trends been investigated.

8:30a – 10:15a, Friday, February 22, 2019

Social Issues and Climate Change 2: 119, 183, 146, 139 (Jourdan Moderating)

Abstract of Contribution 119

ID: 119
General Paper
Keywords: Land Policy, Implementation Gap, Evaluation of Planning Practice, Property Rights in Planning Law

Pursuing the implementation gap - quasi-experimental analysis of land policy tools in practice

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Planning law contains a number of regulations that are described as land policy tools, such as land readjustment or public land banking. Those tools aim at translating plans into the logic of property rights. In the end, this transfer is necessary to enable the actual implementation of plans and ultimately the achievement of planning goals. However, tools do not take effect automatically. They have to be activated and used strategically by local planning authorities.

The present paper examines if and how authorities use the tools provided by planning law. The paper researches the fundamental hypothesis that the usage of such land policy tools makes planning system more effective. Accordingly, the actual development should be more in compliance with overall planning goals if land policy tools are used.

For obtaining results that are comparable and valid across municipal and cantonal borders and for reducing the varying influence of privat actors decision on this mechanism, a quasi-experimental design is conducted taking food discount stores as unit of analysis. Concerning their business model, location policy and influence on purchasing behavior and mobility pattern, they are of high relevance for planning. In addition, the companies` interests and their capabilities do not vary much in different cases and can be seen as standardised. Therefore, food discount stores are exceptionally suitable for conducting comparative case studies in different spatial contexts.

Empirically, the paper follows three steps that combine different methodological approaches: First, all 275 food discount stores in Switzerland are analysed geographically by using remote sensing techniques. This serves to identify their functional-spatial character and a first rough evaluation of their actual condition compared to the goals of Swiss planning policy. A classification enables a rough devision in a modest number number of ideal types (classes). Second, the usage of land policy tools in planning practice is captured by conducting a written survey among those 190 municipalities that have at least one food discount store. The focus of the survey is the different land policy tools (their strategic importance as well as the perceived effectiveness). As a result, characteristic ideal types of land policy are formed (types) based on specific pattern of used tools. Third, the actual operating mechanism is examined by conducting nine selected case studies. The selection is based on deductive hypothesis on the combination of classes and types. The anticipated mechanism is verified by systematic site visits, document analysis, and interviews with relevant experts.

The results of the paper enable to explain better the implementation gap in planning - thus the differences between the planning policy goals and the actual outcome.

Abstract of Contribution 146

ID: 146
General Paper
Keywords: Environmental justice, planning, spatial planning, spatial planning theories

Environmental justice in the context of planning

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In recent years, environmental justice has been central in many Social Sciences discourses; yet it has gained limited recognition in planning, particularly in spatial planning theories. The extent of environmental justice in planning theory remains unrecorded or subtle in planning research. This study evaluates planning theories against the criteria that constitute the dimensions of environmental justice. The results of the work reveal that planning theories generally incorporate environmental justice to a limited extent. The study recommends the introduction of a new environmental justice paradigm shift in planning to bridge the identified gap in planning theory and practice. Regarding planning practice, the study highlights the need for planners to apply the principles of environmental justice in planning to achieve fairness in distribution, recognition, participation, capability consideration, and effects in monitoring and evaluation.

Abstract of Contribution 183

ID: 183
General Paper
Keywords: climate change, mitigation and adaptation, property rights, compulsory purchase, retreat, settlements

Managed retreat of settlements and property rights

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The development of settlements has to face up the consequences of climate change. Climate change increases the risk for existing human settlements in different ways. Coastal regions for example are subjects to storm surge and sea-level rise or reverine areas are vulnerable to floods. There are three major categories of adaptation strategies to manage climate change risks to existing settlements: protection, adaptation and retreat. The last strategy signifies the relocation of built assets from a high-risk area to lower-risk site including active intervention by government. Examples are already exists in Australia, Austria, United Kingdom, Germany, Netherlands, New Zealand and the United States (Esteves 2012, Hart 2011, Karp&Kim 2012, Kim et al. 2011).

To implement strategies ot managed retreat, it is necessary to prove the legal feasibility previously and where necessary to adjust the existing regulatory framework. The acquisition of land by the government can be either voluntarily or through compulsory measures. Property rights play an important role in that process.

Abstract of Contribution 139

ID: 139
Special Session: Responding to Climate Change
Keywords: climate suits, emission targets, citizen's initiatives, Europe

The role of critical citizen's initiatives in fighting for climate protection before European Courts: Recent European "Climate suits" and their possible influence on (environmental) planning procedures

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Climate change has resulted in the hottest summer Europe has ever experienced.[1]Despite commitments on international, European and national level to reduce greenhouse gases, CO_2emissions have again been rising in Europe[2]and so have temperatures.

The EU as well as national governments are taking actions to combat climate change, but some environmental agencies as well as citizen's initiatives are of the opinion that more needs to be done. One way to foster this idea is by making use of the various judiciary systems.

Within the last years several "climate suits" have been brought before European and national courts, all aiming at achieving a decrease in CO_2emissions. In May 2018 families from different European and extra-European Countries have sued the European Parliament and the Council of the European Union for the inadequate climate targets taken by the European Union, claiming that this must be seen as an infringement of their human rights. The claimants argue that because of massive heat-waves and increased wildfires in Europe their fundamental rights have been violated and that the EU must increase its 2030 climate target to prevent further harm. In August 2018 the European General Court has accepted the case[3]and the European Parliament and the Council of the European Union have been asked to provide their defence until October 2018.

This is the first climate suit against European bodies, but not the first suit for stricter climate targets in Europe. In 2015, campaign group Urgenda and 886 Dutch citizens sued the Dutch government in the Hague District Court for a stronger 2020 national emission target. It was the first court case in Europe in which citizens tried to force their government before a court to increase its efforts against dangerous climate change. Urgenda argued that the Netherlands were a party to the United Nations Framework Convention on Climate Change and thus were obliged to reduce greenhouse gas

emissions to prevent the undesired consequences of climate change. It also reasoned that the Netherlands were parties to the Kyoto Protocol as well as to the Paris agreement and therefore had to fulfill concrete reduction limits under these international law treaties.

Urgenda furthermore pointed out that the Dutch constitution reads in its Article 21 “it shall be the concern of the authorities to keep the country habitable and to protect and improve the environment”.

Its actual claim centered that the Netherlands to fulfill their duty under international, European and national climate protection law, needed to reduce its CO_2emissions by 25% to 40%, compared to 1990, by 2020. As the Netherlands after 2010, however, took on a reduction target of 20%, which is expected to result in a total reduction of 14%-17% in 2020, Urgenda found that the Dutch reduction target was therefore below the standards deemed necessary by climate science and international climate policy. So, in principle there was no different opinion on the basis decision that CO_2emissions needed to be reduced, but only different point of views on the level and/or timeframe of reduction.

The court followed Urgenda’s arguments and ruled that the Dutch government had a duty of care to mitigate as quickly and as much as possible. It agreed that with the current reduction level the Netherlands would not meet their reduction targets under international law and therefore the proposed reduction of 14%-17% had to be qualified as not sufficient, as the state has a duty to protect the living environment. The Court further considered that within the mentioned range of 25%-40% a decrease to the lower boundary is the minimum that is in principle required. Thus, the Netherlands had to meet a reduction target of at least 25% by 2020 compared to 1990.

As for the argument of the Dutch government that the Netherlands were only a small state that did not contribute a lot to the total increase in greenhouse gas emissions worldwide, the Court ruled that the Netherlands as Annex 1 country under the Paris Agreement should be taking a leading role in combating climate change. It focused on the fact, that climate change is a global problem and therefore requires global accountability, concluding that even if the total of the Dutch emissions is small compared to other countries, this does not affect the obligation to take precautionary measures in view of the state’s obligation to exercise care. In addition, it found that also due to the undisputable fact that the Dutch per capita emission are one of the highest in the world the Netherlands were under a more strict obligation to reduce greenhouse gas emissions.

The argument of the Dutch government that the state would risk to loose competitiveness as a business location due to a higher reduction path, was rejected by the court, indication that several neighbouring states, like the United Kingdom, Denmark and Sweden, had implemented stricter national climate policies without indications that this created an unleveled playing field for business in those countries.

Meanwhile the Dutch Government has appealed the judgement and the case is still pending within the second instance.

In Austria, there was a comparable case concerning the necessity to obey to international climate law. It was not initiated by a claim against the government, but took place within an administrative procedure. Austria’s biggest airport applied for permission for building a third runway, to meet the current growth rate of about 8 percent passengers per year.[4]

In 2012 the Provincial State Government issued an affirmative permit, but several parties, mainly neighbours and citizen’s initiatives appealed against this decision. So, the second instance body, the Federal Administrative Court (*Bundesverwaltungsgericht*) had to decide on the case and found that the project could not be permitted, due to its effects on the environment. It argued, as the predicted emissions, caused by construction of a third runway will amount to 1,8%-2% of Austria’s annual total greenhouse gas emissions,[5]these are to be classified as significant factor within Austria’s CO_2 end result.

When deciding on the eligible legal provisions, the Federal Administrative Court ruled, that *interalia*the Charter of Fundamental Rights of the European Union[6]was applicable. *In concreto*it referred to Article 37, which states that, “a high level of environmental protection and the improvement of the quality of the environment must be integrated into the policies of the Union and ensured in accordance with the principle of sustainable development”. The Federal Administrative Court also cited the Kyoto Protocol, the Paris Agreement and the Austrian Federal Constitutional Law on comprehensive environmental protection and sustainability.[7]Latter states that “the Republic of Austria (Federal State, Provincial States and Municipalities) support comprehensive environmental protection”. Furthermore, the Federal Administrative Court quoted the Constitution of the Province of Lower Austria,[8]namely Article 4/2 that rules, “Lower Austria has to provide for the maintenance of environment, nature and landscape. Special importance has to be given to climate protection.” However, the developer decided to challenge this verdict and appealed to the Austrian Constitutional Court (*Verfassungsgerichtshof*), arguing for violation of the right of equality before the law. The Constitutional Court agreed and the permission fort he third runway had to be rendered.

This contribution will give an overview about these important European Climate suits, discuss similarities and differences and draw conclusions on possible future developments of European “climate suits”. It will also discuss the implications such suits might have on environmental planning procedures.

[1]http://www.scinexx.de/wissen-aktuell-23103-2018-08-30.html(26092018)

[2]http://infographics.pbl.nl/website/globalco2-2016/(826092018)

[3]Carvalho / Parliament and Council, 2018/C 285/51

[4]https://www.viennaairport.com/unternehmen/investor_relations/news/verkehrsergebnisse?news_beitrag_id=1527139479608(05072018)

[5]Bundesverwaltungsgericht, GZ W109 2000179-1/291E, p 77

[6]https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-7-d&chapter=27&clang=_en(09072018)

[7]Bundesverfassungsgesetz über die Nachhaltigkeit, den Tierschutz, den umfassenden Umweltschutz, die Sicherstellung der Wasser- und Lebensmittelversorgung und die Forschung, BGBl. I Nr. 111/2013

[8]Niederösterreichische Landesverfassung 1979, LGBl. 0001-21

Agriculture and Energy: 132, 205, 196, 105 (Nikolic, moderating)

Abstract of Contribution 132

ID: 132
General Paper
Keywords: Land consolidation, Urban, Rural

From rural to urban land consolidation

Per Kåre Sky, Helén Elisabeth Elvestad

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In most countries land consolidation was first introduced in rural areas, with legislation suitable for urban areas being drafted at a later date. This is also the case in Norway. In Norway, laws regulating land consolidation activities goes back to 1274, and the first Land Consolidation Act was introduced in 1821. The first trace of urban competency in the legislation is found in the Land Consolidation Act from 1950. In this paper we investigate how the original measures in the Land Consolidation Act for rural areas has been made suitable for the use in urban areas. We also investigate which types of urban cases that are claimed for the Land Consolidation Court and we give some practical examples. In Norway, land consolidation comprises several different measures to solve the claims presented from the parties involved. The measures ranging from modifications to property and perpetual easements, dissolution of joint ownership and joint use, rules on joint use and to orders to carry out joint measures and joint investments. It is important to notice, that in Norway land consolidation is carried out totally within the court system. That is, as far as we know, unique for Norway. We can conclude that there were small changes needed in the act to adapt land consolidation in urban areas. Properties are often difficult to use gainfully at the current time and under the current circumstances. The layout of the property is not adapted to the development that will take place. Land consolidation is therefore of great importance for urban development. Unfortunately there are no national statistics that distinguishes between land consolidation cases in rural and in urban areas. We will also argue that organizing land consolidation in the court system can be efficient especially when there are many disputes over property boundaries, as it is in Norway.

Abstract of Contribution 205

ID: 205
Special Session: Responding to Climate Change
Keywords: takings, pollutants, agriculture, flooding, buyouts

Nothing But Pork? Agricultural pollution, recurrent flooding, and the cost of sustainable retreat.

Judd Michael Schechtman

New York University, United States of America

Hurricane Florence dropped a record amount of rain on North Carolina in September 2018. One of the most significant risks which became evidentr shortly after the storm passed was pollution from hog farming. News sources reported that 17 hog waste lagoons were flooded, causing a "health and environmental crisis." The waste lagoons overflowed at many lagoons and about 5000 pigs died from the flooding, which became a major public health hazard. (1)

This is surprising given that North Carolina embarked on a bold buyout program almost twenty years ago. The North Carolina Swine Floodplain Buyout Program has paid more than $18 million since 1999 to purchase the rights to 43 hog farms in the 100 year floodplain. The program allows farmers to retain ownership by purchasing easements that limit use for agriculture other than animal farming. Yet, as of 2018, there are still 45 active hog farms in the floodplain.

Retreat from flood-prone lands is one of the best methods of preventing damage in the future. As explained by Barnheizer, "Programs that mitigate flood hazards through public acquisition of high-risk private properties represent the best opportunity to remove unsound development and prevent new development from taking its place." [2] Yet, successfully implementing retreat programs is extremely challenging. The decision to use public money to buy out homeowners might be the only politically feasible means to retreat from the flood zones. But it is also predicated on the law - that is, the presumption that to prohibit redevelopment through regulatory means would be an unconstitutional taking of property.

In the US, Lucas v. South Carolina Coastal Council [3] set precedent that limited government's ability to regulate to "no more than duplicating the result that would be achieved by the courts - by adjacent landowners under the State's law of private (or public) nuisance..." State courts have generally not narrowed this exception however, and typically find that many regulations do not deny owners all value of a property.

State courts have not, however generally rushed to narrow this exception, and have generally found that many regulations do not entirely deny owners all value of a property, forcing many cases to be analyzed under the balancing test instead if the per se rule, giving them more flexibility to consider the burdens and benefits of statutes. In North Carolina, "Plaintiffs must demonstrate (1) they have been deprived of all practical use of their property and (2) the property has been deprived of all reasonable value in order to prove their property has been taken. [4, 5]

States and nations will have to determine how to handle risks to agriculture as well as the threats that agriculture and industry poses to human and environmental health given increasing risks of climate change. It must be done way that is politically acceptable but we cannot allow the burden to shift to having to pay polluters not to pollute. In North Carolina and many other states and nations, retreat can be accomplished with reasonable regulations. Paying the swine industry not to damage public waterways amounts to enormous pork, as the public does not have to pay to curtail the rights of landowners that harm the public

Abstract of Contribution 196

ID: 196
General Paper
Keywords: farmland, eminent domain, expropriation, urban development, compensation, environmental services.

Rethinking just compensation for farmland taken for urban development: An unorthodox cross-national probe

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In many countries, farmland is still the major land reserve for urban development, including by the private sector. In cases where farmland is taken by eminent domain (expropriation; compulsory purchase), the prevalent view is that farmers should be compensated only for the value of their land under agricultural designation. Usually, this means a much lower value than the value of the land after it is converted to urban uses. The underlying assumption seems to be that farmers have a social obligation to conduct farming, and when that ceases, they should not enjoy any profit derived from reclassification of farmland to urban use.

The prosed paper seeks to challenge this assumption from three perspectives: 1) broad land-value capture policies in the relevant country; 2) distributive justice 3) environmental values. I argue that the prevalent approach is long-outdated and will try to trace back the socio-political context from which it may have emerged. Today, the urban population in most countries is more politically and economically powerful than the rural population. Planners concerned about distributive justice as well as ecosystem services and farmland preservation should also revisit the low-compensation assumption.

The paper will present preliminary comparative analysis of current laws and practices about compensation for farmland in selected countries. Here are a few of the questions posed:

- A preliminary question: can farmland be legally expropriated for urban development
- What terms does the legislatoin use: Market value, fair value, real value, current value, etc.…? How is each defined?
- In practice., will farlmland next to a city be valued the same as land located far away from athe path of develoment? Or will the compensation formula take into account the market value reflecing urban proximity and *expectation value* for a rezoning to urban use*?*
- Is a family farm regarded as deserving better compensation compared with farmland held by a commercial corporation? In other words, is attachment to the land compensable?
- Does the farmer have the right to a share in the future income or profit created by the conversion to urban use?

The paper concludes wiht a critical evaluatoin fo the different approaches and hteior conceptual and ideological implications

Abstract of Contribution 105

ID: 105
General Paper
Keywords: open space, planning, eminent domain, land use regulation, design

Comparative Programs for Open Space Planning, Acquisition and Management

Edward Joseph Sullivan

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This paper examines two planning law regimes, i.e., Singapore and Oregon, with respect to planning for, acquiring and managing open space.

While grounded somewhat in common law property concepts, the two entities have very different regimes regarding valuation for purposes of public acquisition through compulsory purchase. Moreover, the constitutional limits on acquisition and retention of open space lands also differ significantly.

The Singapore example involves acquisition of a disused railway corridor by the national government, virtually without cost, and the process for planning to convert that corridor to transportation (especially bicycle and pedestrian corridors), nature and visual open space. The Oregon example involves limited public acquisition and relies upon a combination of planning and land use regulation to provide for transportation and river access (in urban areas) and visual corridors (with less access) in rural areas.

Planning for these open space uses was also significantly different. In Singapore, the land was acquired with the initial planning work done by government ministries, with the public invited to participate in the detailed planning subsequently. In Oregon, the planning began with the creation of a vehicle to attract public funds for planning and land acquisition, but strongly voiced concerns by rural landowners over property rights and fears of authorizing trespass scaled back the acquisition element of the program and caused its transformation into a combination of planning and regulation that has generally preserved these natural and visual resources.

The paper then summarizes the characteristics of both programs and compares them as to their effectiveness.

Densification: 143, 130, 197, 126 (Malecha moderating)

Abstract of Contribution 143

ID: 143
General Paper
Keywords: geographic information, dynamics in settlement structures, land use policies, infill development

Urban densification in suburban Germany – How do policies play out spatially?

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To pursue urban densification, planning authorities dispose of varieties of instruments of land policies, reaching from local or regional land use plans to the promotion of infill development. How these are applied, however, has to be seen within todays' spatial context – cities are parts of suburban, polycentric regions and land use policies, in general, still favour urban expansion. Here, the question arises of how effective densification policies are in re-directing urban growth. As the policies also promote a change in the spatial distributions of social and environmental costs and benefits, the aspect of justice becomes prevalent as well. Thus, the issues of effectiveness and justice offer an analytical lense to address the challenges for the strategic use of instruments for urban densification.

Therefore, a novel approach to contrast the use of instruments with the spatial process of densification is applied. We analyse legal and planning policy documents and structures those regarding their densification goals and ways of implementation. The spatial densification processes themselves are analysed using a geographic information based approach with an automated identification of changes in the regional building stock. We distinguish between urban densification and expansion. On the building level, patterns of densification are identified, showing where and how densification takes place. Against this backdrop, the effectiveness and justice of the applied policies are discussed.

The methology is applied to the Frankfurt agglomeration (Germany), where instruments are used strategically as high population growth demands new ways to provide for housing. The case enables us to critically reflect on the role of densification policies within the national planning context.

Abstract of Contribution 130

ID: 130
General Paper
Keywords: Densification Policy, Housing Policy, Social Justice, Urban Sustainability

The business of densification: An analysis of national densification policies with a focus on affordable housing in Switzerland

Gabriela Debrunner, Andreas Hengstermann, Jean-David Gerber

University of Bern, Switzerland

In the last decade, faced with population growth, rising demand for centrally-located dwellings and expanding land and energy resources consumption in cities, densification became a central national policy objective of spatial development. Many Western European countries promote densification under the banner of sustainable urban development.

Using a (neo)institutionalist approach, this article takes Switzerland as a case study and shows that the new rules of the game (New Spatial Planning Act, 2012) must to some extent meet the interests of the target groups in order to guarantee implementation. In Switzerland, the building and planning sectors have long been oriented toward greenfield development where juicy profit margins can easily be realised. In contrast, public planning authorities promoted the shift toward densification as external development was no longer acceptable for financial and ecological reasons. We argue in this article that a de facto compromise had to be found with the construction, real estate and financial sectors in its broadest sense in order to make densification palatable to them.

This compromise is based on targeted public interventions encouraging both the economic and ecologic dimensions of sustainability at the expense of its social side. Through rescaling measures, the enforcement of social sustainability criteria supporting housing affordability, social mixing or security of tenancy in densified urban neighbourhoods became a municipal task, while ecologic and growth-oriented objectives of densification (e.g. climate protection, energetic renovation, private investment into reconstruction) are directly supported by the federal government.

Relying on an in-depth analysis of national legislations, existing policy documents (e.g. reports, strategies), parliamentary debates and selected expert interviews (policy makers, private sector and tenant groups), we reconstruct the emergence of the densification business within the last two decades. Our analysis shows the different strategies available to implement densification and demonstrates how certain measures are deliberately favoured at the expense of others.

Abstract of Contribution 197

ID: 197
General Paper
Keywords: planning regulation, retail, out-of-town development, inner cities

The impact of restrictions on out-of-town retail development on inner city performance and vitality

Huub Ploegmakers

Radboud University

Many governments have introduced legislative frameworks that inhibit the entry of large out-of-town retail stores at the urban fringe. Restrictions on the entry of these so-called 'big box stores' are often justified by the need to prevent the potential negative externalities that they might generate on local communities, like congestion and urban sprawl, and in particular the hollowing out of city centres. Out-of-town development is believed to cause negative consequences for the vitality and viability of nearby centres. However, it is not clear whether such restrictions are the most efficient tool to control externalities. There is a large strand of literature associated with new institutional economics which argues that externalities can be more efficiently resolved through private law rather than public law (see e.g. Fischel, 1975). In fact, several studies have demonstrated that regulation of retail development might actually harm economic efficiency by reducing retail employment and productivity (e.g. Cheshire et al., 2015). Another strand of empirical work has shown that other planning policy interventions might be more effective in promoting city centre vitality and viability (Jackson & Watkins, 2007; Van der Krabben, 2009).

Despite this interest in the existing literature on the potential costs of planning restrictions on retail development, little empirical evidence exist on the benefits associated with these policies. In particular, the extent to which restrictions on the entry of big boxes can effectively enhance the performance and vitality of inner cities has received only limited attention. This paper attempts to assess the impact of regulations that prevent large out-of-town retail developments on retail activity in inner cities, focusing on the Netherlands. It exploits a reform that was introduced in 2004, which devolved responsibility for retail planning policy to the provincial level. This caused considerable variation in planning restrictiveness across Dutch regions (Evers, 2011). As a result, the impact of new entry restrictions can be investigated within a single country. To evaluate the effects of big box openings on inner city performance, this paper utilizes data on yearly turnover of inner city retail areas (measured as retail sales per square metre) drawn from telephone-based consumer surveys. These data are available for the period 2009-2016 across 200 inner city areas. For these inner cities, information is collected on big-box stores that have opened nearby, including the date of opening, size (in square meters) and the retail industry to which they belong.

Abstract of Contribution 126

ID: 126
General Paper
Keywords: Negative covenants, zoning plans, densification projects, challenges

Negative covenants and planning law – the case of suburban densification in Oslo, Norway

Helén Elisabeth Elvestad, Terje Holsen

Norwegian University of Life Sciences, Norway

This article presents an investigation of how developers in Oslo relate to and deal with negative covenants in densification projects. The article's empirical basis consists of interviews with developers in the Oslo area, all of whom have experience of negative covenants in their work.

A densification project is permissible under the zoning system and public law provisions, but it can also be in breach of the covenant system and private law rules. Since a negative covenant is not necessarily annulled in the event of a conflict between the covenant and project plan, it can therefore prevent publicly approved development projects from going ahead. The challenges associated with negative covenants and zoning plans, and thus the implementation of housing policy, have been the subject of several Supreme Court decisions.

The article's most important finding is that the Norwegian system for dealing with negative covenants is costly in terms of time and resources and creates unpredictability for rights holders and developers alike. The biggest challenge is having two different systems working more or less independently of one another.

The purpose of this article is gain more insight into the challenges facing developers in confrontation with negative covenants in their projects. A better understanding of, and insight into, the perceptions and experiences of developers could become an important source of information if the legislature is persuaded at some point that the problems should be regulated in law.

10:45a – 12:30p, Friday, February 22, 2019

Environmental Issues: 186, 168, 117 (Booth moderating)

Abstract of Contribution 186

ID: 186
Special Session: Responding to Climate Change
Keywords: Land Use, Resiliency, Local Government, Climate Change, Local Boundaries

Sustainability Implications of Local Government Boundary Change and Formation

Kellen Zale

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The existence and boundaries of local governments may appear to be a technocratic and prosaic aspect of governance and planning, but local government formation and boundary change law has a powerful and often underappreciated impact on the ability of communities to engage in efforts to promote local resiliency - and to protect the property of those living within them - in the face of climate change.

The boundaries of a local government determine the extent of a local government's regulatory and fiscal jurisdiction, yet legal boundaries often do not correspond to the pressures local governments must respond to. With regard to the risks climate change poses for stormwater management and flood control, examples of the potential mismatch are myriad. Bayous and rivers flow through multiple cities and counties. Development patterns in one city or county can exacerbate flooding in other cities and counties. Inconsistent land use laws and building codes across multiple cities and counties in a regional watershed can undermine the efforts of any single locality to mitigate flooding concerns on its own.

This paper aims to highlight the resiliency implications of three key facets of local boundary law–incorporation, annexation, and special districts–and to unpack how structural constraints imposed by each of these three mechanisms can complicate efforts by local governments to engage in effective land use planning to respond to climate change. The paper analyzes how permissive state laws regarding municipal incorporation and near-elimination of unilateral municipal annexation mean that land use decision-making and planning will almost invariably be fragmented across a region, often leading to uncoordinated and inconsistent resiliency responses. And although special districts offer a potential mechanism for cross-boundary regional responses, in practice, special districts fail to live up to that potential because of problematic structural tendencies.

By more clearly recognizing how the substantive ability of communities to proactively engage in resiliency efforts is inextricably linked to underlying structural conditions created by local boundary laws, the paper provides a framework to enable scholars, planners, and communities a tool to more effectively engage with each other to work within – and, if needed, work to change – the legal structures that shape local resiliency.

Abstract of Contribution 168

ID: 168
General Paper
Keywords: Flooding; zoning; land use planning; hazards; resilience

Evaluating the suitability and alignment of zoning and land use planning in flood-hazard areas

Matthew Malecha, Siyu Yu, Malini Roy, Philip Berke

Texas A&M University, United States of America

Flood events are exacting an increasingly heavy toll on communities, accounting for over $3 billion in damages in 2017, alone. Along with broader trends in climate change and coastal urbanization, local land use and development decisions are important contributing factors. Urban planning and zoning guide and regulate the use of land in communities, but some land uses are more suitable than others in flood-prone areas—e.g., parklands are less vulnerable to flooding than dense residential developments. To better understand how land use decision-making affects flood vulnerability, this study explores the suitability of land uses and the relationship between land use planning and regulation in flood-hazard areas of a vulnerable coastal city. We spatially evaluate parcel-scale land use and zoning data, revealing areas of incongruity and places where zoning and/or future land use prescriptions may effect an increase in vulnerability. Findings suggest the need for focused reevaluation of land use guidance and regulation to help communities build greater resilience to flooding.

Abstract of Contribution 117

ID: 117
Special Session: Responding to Climate Change
Keywords: Land Use Law, Transit Oriented Development, Equity, Vulnerable Populations

Reconsidering Regulatory "Stringency" as a Pathway to Equitable Infill Development

Moira O'Neill[1,2], Giulia Gualco-Nelson[1,2], Eric Biber[2]

[1]Columbia University, United States of America; [2]University of California, Berkeley (Berkeley Law)

New housing developments must align with sustainability goals by facilitating equitable access to public transit and economic opportunity. Yet in the push towards new infill development, many commentators have identified a second stage issue—the displacement of low-income communities that have historically lived in central city neighborhoods and used transit at the highest rates, or the persistent exclusion of low-income communities from high-opportunity neighborhoods that are transit-rich or recipients of major transit investment. If low-income households live further from public transportation nodes and major job centers, this disrupts regional efforts to reduce greenhouse gas emissions by reducing vehicle miles traveled. For example, existing data indicates that low-income families work within California's high cost coastal communities, but cannot afford housing near their work. These families commute 10% further than commuters elsewhere. High housing costs that result in longer commutes directly undermines the goals of recent legislation intended to address climate change. The decline of transit ridership in Los Angeles, despite new investments in public transportation and upzoning around these stations presents an acute representation of this issue. Infill development in transit rich neighborhoods must therefore occur equitably as reducing GHG emissions cannot occur if commute times are increasing because low- and middle-income communities are pushed to farther rings of the suburbs and forced to drive to access economic centers of opportunity.

Increasing equitable infill development requires understanding (1) what specific legal barriers to increased housing production exist; (2) what planning practices promote equitable infill development; and (3) how law and planning practice intersect within specific cities to affect affordable housing opportunities within transit-rich areas or areas receiving substantial transit investment. Past research has correlated stringency in land use regulations with increased housing costs, increased income segregation and wealth gaps. But this past research is limited in that it is unable to identify which specific regulations might contribute to these outcomes because it relies on aggregated self-reported data that is unable to account for the heterogeneity of local regulations and their application in relationship to the political culture and revenue demands of the specific local context. In response to the limits of past research, this paper presents findings from interdisciplinary mixed method case study of actual entitled developments--the first in nearly two decades--that employs phased and sequenced data collection and analysis. The cases are drawn from eight cities in the Bay Area and Los Angeles regions over three years, and the dataset includes (1) project-level data on entitlement processes and development characteristics, such as demolition or replacement of rent-controlled units and affordable housing set-asides; (2) planning code summaries that analyze the planning code, General Plan, relevant city charter provisions, and other development ordinances, such as inclusionary housing or rent stabilization ordinances, anti-demolition ordinances, and neighborhood level planning that taps into state-level streamlining initiatives; and (3) in-depth key informant interviews across a range of stakeholders that are participants within and impacted by local development processes, including community-based organizations and affordable housing developers. The analysis reveals development patterns impacting affordable housing opportunities and the relationship between development patterns and transit access at a neighborhood level.

Within these eight cities, we found that significant barriers to advancing equitable TOD exist in the cities we are studying; however, these barriers primarily consist of specific local land use regulations that limit or slow infill development in transit-rich neighborhoods and not state environmental regulation (although much legal reform has targeted state environmental regulation). We also found that existing state law aimed at incentivizing infill development in transit-rich neighborhoods is applied differently (and sometimes ineffectually) within these local contexts; and advancing state level climate change goals in a way that promotes equitable infill development will require policy interventions that distinguish between process and zoning and intervene in each where appropriate.

Land Use Planning and Stages of Development: 120, 106, 152 (Ozcan Moderating)

Abstract of Contribution 120

ID: 120
General Paper
Keywords: Tourism, Environmental Damage, Spatial Planning, Bali

Tourism, Environmental Damage and the Regulatory Failure of Spatial Planning in Bali: A Case Study of Benoa Bay Reclamation Project

I Gusti Ngurah Parikesit Widiatedja

University of Melbourne, Australia

Tourism provides significant benefits to the economic development of countries. However, it also adversely affects environment as the primary natural resources are employed as a means of attracting tourists. As the most popular tourist destination in Indonesia, Bali puts tourism as an engine of economic development, but some negative impacts are unavoidable. For instance, rice fields have been converted into construction sites for tourism facilities, and 44 percent from a total length of the beach in Bali has been experiencing with erosion, with almost 20 percent has been severely damaged because of tourism activities.

The regulation of spatial planning is crucial to anticipate and mitigate environmental damage as it will ensure tourism projects respect and protect environment. Although Bali has regulations on spatial planning, they are still ineffective to prevent environmental damage from tourism activities. Some tourism projects have violated spatial planning regulations, particularly related to the establishment of projects in the conservation area that is prohibited for commercial activities. However, there are no proper mechanisms to prevent or enforce this violation. Specifically, in the Benoa Bay Reclamation Project, the Governor of Bali issued a permit, allowing an investor to reclaim 838 Hectares Benoa Bay area to build an integrated tourism facility. This

permit violated the existing spatial planning regulation where Benoa Bay was classified as a conservation area. Interestingly, the Central Government supported the governor's decision.

This article argues while spatial planning regulation should be able to prevent environmental damage from tourism development, the reclamation project shows the opposite reality. Regulations of spatial planning are ineffective to prevent environmental damage, and one of the reasons behind this ineffectiveness is the competing goals between environmental protection and economic consideration where the latter eventually prevails.

To begin with, this paper explains the relationship between spatial planning regulations, environmental protection and tourism, covering the definition of spatial planning, the existence of spatial planning as a regulatory measure, and how it links to environmental protection and tourism development. The next section discusses theory and evidence of the regulatory failure, showing the capture theory and the competing goal between economic benefits and spatial planning's goal. This article then analyses current spatial planning regulations in Bali, its scope to coastal areas, and how the Bali Government has regulated spatial planning. Next, the case study of the reclamation project shows how spatial planning regulation has been violated and how the project has adversely affected environment.

Abstract of Contribution 106

ID: 106
General Paper
Keywords: Land use, real estate development, property rights

Two Models of Indigenous Land Development Outside Vancouver, British Columbia

Robert Sroka

University of Michigan

In addition to being a primary sphere in which law has strong potential to positively impact socio-economic development, land rights as they pertain to Indigenous peoples are a frequent flashpoint of conflict throughout the developing world. Yet many similar conflicts exist in highly developed countries that also happen to be former colonies. This paper evaluates the formation of the law on Aboriginal title by the Supreme Court of Canada as pertaining to the province of British Columbia (BC), most of which has the unique status of not being governed by settled treaties with Indigenous groups. I argue that the line of Aboriginal title decisions has traded short and medium term land rights uncertainty for longer horizon reconciliation through changing bargaining positions and incentives for government and Indigenous parties alike. This series of decisions has had its greatest potential positive impact for BC Indigenous groups with geographic proximity to valuable real estate or natural resources, and no historically settled treaties. Certain communities within the Vancouver region have proven especially adept at leveraging the new judicial framework to gain land settlements, and then construct significant real estate developments on these settlement lands. This work evaluates the efforts of two Indigenous groups to create a self-sustainable socio-economic future via real estate development on settlement lands, through two distinct models: the first a piecemeal and prolonged approach, and the second, an expedient, comprehensive, and final settlement. I find that both models have been effective for the groups discussed, but that the trade-offs can be framed as continued bargaining power and a residual outstanding gain yet to be realized, versus certainty and a higher degree of self-determination.

Abstract of Contribution 152

ID: 152
General Paper
Keywords: spatial justice, diversity, equity, democracy, just distribution, socially valued resources.

Exploring the fragments of spatial justice and its relevance to the global south

Adefemi Olayide Adegeye, Johnny Coetzee

University of Pretoria, South Africa

For the past two decades, the South African government, through various initiatives, attempted to undo the apartheid spatial landform existing in the country. In 2013, The South African Parliament passed the Spatial Planning and Land Use Management Act, (thereafter referred to as SPLUMA) into law. The Act heralded in a new dispensation for planning in South Africa. SPLUMA creates a coherent regulatory framework for spatial planning and land use management for the entire country that redresses the inefficiencies of the past planning and regulatory systems. The Act proposes principles to guide planning and development in the country. These principles include spatial justice, spatial resilience, sustainability, efficient and good administration. The introduction of these principles to the legislation was met with great acceptance, however, little was known about the concept of spatial justice and how it should be applied to planning and development activities. Using a meta-synthesis, this paper proposes a working definition of spatial justice in an attempt to unravel the properties and nuances within it. The meta-synthesis frames the concept of spatial justice to possess equity, diversity, democracy, just distribution, benefit of the disadvantaged, and access to necessary resources to meet basic needs. This working definition could be used to develop a framework to operationalise spatial justice, helping policy makers and practitioners undo spatial injustices that exist in our geographies.

1:30p – 3:15p, Friday, February 22, 2019

Climate Change 2 and Anti-Zoning : 140, 179, 134 (McElduff moderating)

Abstract of Contribution 140

ID: 140
General Paper
Keywords: Plan integration; coordination; social network; network of plans; governance

The intersection of social and planning networks: a post-Harvey study

Bryce Hannibal, Sierra Woodruff, Matthew Malecha

Texas A&M University, United States of America

2017 was the costliest year on record for US disasters, with flooding alone accounting for over $3 billion in damages. Costs continue to rise in large part due to a lack of coordination among decision makers and continued development in hazardous areas. The lack of coordination of hazard mitigation and land use planning, as well as community policies and plans may result in an increase of people, homes, and infrastructure exposed to flooding and climate change impacts. In Harris County, TX more than 7,000 homes were constructed in the 100-year floodplain since 2010, many of which suffered damage last year in Hurricane Harvey. Scholars and policymakers have pointed to the need for better coordination of plans that guide development and better integration of hazard mitigation throughout a community's network of plans. Our research examines the interconnected network of governance structures that lead to integrated planning efforts and collaboration among stakeholders in extreme events.

To address this dilemma, we examine two sets of data: a stakeholder network and a network of plans. This analysis proceeds in two main steps. The first includes collecting and analyzing a comprehensive set of plans from the greater Houston area. We then create a network of plans that examines the conceptual overlap and organizational involvement in various aspects of the individual plans. The second examines the collaboration network of stakeholders acquirred from the stakeholder survey on building resilience. Both sets of data are analyzed using social network analysis techniques, which examine the underlying structure of interaction among a set of social actors. We then compare and contrast the planning network and the actual stakeholder network to identify overlaps, inconsistencies, and gaps in the networks. We conclude with comments about how an improved understanding of the relationship between these parallel networks may help to better coordinate approaches to planning, disaster recovery, and long-term risk reduction.

Abstract of Contribution 179

ID: 179
Special Session: Responding to Climate Change
Keywords: mitigation, adaptation, legislation

Why climate change adaptation is different from climate change mitigation and has no place in climate protection statutes

Martin Wickel

HafenCity University Hamburg, Germany

In Germany, early legislative attempts to create a legal basis to meet the challenges of climate change used a definition of climate protection that encompassed mitigation as well as adaptation. Although it has become more precise, still the legislator often tends to connect these subjects. For example, seven German states (Bundesländer) have issued climate protection statutes so far. The focus of these statutes lies on climate change mitigation, i.e. the reduction of greenhouse gas emissions. However, most of them touch the subject of adaptation to climate change as well.

This raises the question whether this is a natural combination. Both are new political fields that require legislative attention. And both are linked by climate change. That often seems to be an argument to combine both subjects. This, however, blurs the legal differences between the subjects. Mitigation aims at avoiding climate change. The measures to be taken are easy to identify because they all aim at the reduction of greenhouse gas emissions. The legal problem arises from the incomprehensible chain of causation between the measures taken and positive effects. In the structure of German environmental law mitigation is based on the precautionary principle. Measures to adapt to climate change adaptation must be based on a prognosis of future damage scenarios. The phenomena triggered by climate change, e.g. floodings, heavy rainfalls, droughts, heat waves, are already known. The same is true for measures to meet the challenges of climate change, e.g. preserve green spaces as retention areas and to avoid heat islands. What changes is the extent and probability of damaging events. This shifts the point from which measures, which might intervene with private rights, can be taken to avoid these dangers.

The presentation will argue that combining the legislative efforts of mitigation and adaptation should be avoided. Many aspects of climate protection legislation, e.g. setting goals, employing planning tools etc., could be used in the field of adaptation to climate change, too. However, the subjects should be kept separate from each other.

Abstract of Contribution 134

ID: 134
General Paper
Keywords: statutory planning, flexibility, certainty, amendments

The Inflexibility of Israel's Planning System and the Role of Plan Amendments

Cygal Pellach, Rachelle Alterman

Technion - Israel Institute of Technology, Israel

The literature on regulatory planning has long addressed the dual needs to provide flexibility to respond to changing conditions, on one hand, and legal certainty about development outcomes on the other (Mandelker, 1971). Recent works have highlighted the need for flexibility in planning, given that planners face complexity and uncertainty about the future (de Roo and Silva, 2010). How do planning bodies respond to these needs in practice?

Israel's statutory planning system is characterised by a hierarchy of binding land use plans, from national to local level (Alterman, 2001). Each plan must conform to the plans at levels above. The lowest-level plans are very detailed, and development must conform with these plans. There is no requirement that statutory plans at any level are time-limited and to our knowledge, none are. Furthermore, there is no requirement for periodic review and redraft of plans.

These conditions promote legal certainty, but create a relatively inflexible environment (Booth, 1995). 143

Significantly, plan amendments in Israel also have a financial dimension: Increased building rights are subject to a "betterment tax" (unique to Israel; Alterman, 2012), whilst reductions (regulatory takings) must be compensated (Alterman, 2010). The latter may prevent local authorities from initiating amendments which reduce building rights.

Against this backdrop, what is the role of plan amendments at the local level in Israel? In our study, we assess both the legal and practice realms to understand aspects such as the frequency of plan amendments, their substance, the identity of initiators and their motivations. In this presentation, we will present our findings from the legal realm, as well as initial findings from the practice realm in the context of the medium-sized city of Petah Tikva.