



Explaining the variety in smart eco city development in China-What policy network theory can teach us about overcoming barriers in implementation?

Haiyan Lu ^{a, *}, Martin de Jong ^{a, b, c}, Ernst ten Heuvelhof ^a

^a Delft University of Technology, Faculty of Technology, Policy and Management, Mekelweg 2, 2628 CD Delft, The Netherlands

^b Fudan University, School of International Relations and Public Affairs, 220 Handan Road, Yangpu District, Shanghai, PR China

^c Erasmus University Rotterdam, Erasmus School of Law, Burgemeester Oudlaan 50, 3062 PA Rotterdam, The Netherlands

ARTICLE INFO

Article history:

Received 30 September 2017

Received in revised form

20 April 2018

Accepted 29 May 2018

Available online 1 June 2018

Keywords:

New town development

Smart city

Eco city

Sustainable city

Policy network theory

Policy instruments

ABSTRACT

The Pearl River Delta (PRD) is one of the largest and fastest growing urbanized deltas in China and the world. Its municipalities hope to attract investors, firms, high-quality labour force and residents in line with ecological modernization. They do so by using a variety of attractive city labels, such as eco city, low carbon city, and smart city. The physical shape these city labels take is best exemplified in the emergence of large new towns at the fringes of existing urban areas. Few studies to date unearth empirical evidence as to how municipal governments in China implement their smart eco city ambitions. This study does precisely that by examining how concrete policy networks at the local level develop new towns in the Pearl River Delta. The Policy Network Theory is used to map the positions actors have in three different new town projects in Shenzhen, Foshan, and Zhuhai respectively. It explains project progress or lack thereof by studying the organizational constellations that structure the interactions among actors and how the constellations affect their resources exchange. Our analysis suggests that in the various arenas where policy actors meet each other and are supposed to exchange resources and work out viable policy packages, blockades exist preventing such exchanges from happening. This creates impasses to which different cities have found different institutional and organizational answers.

© 2018 Elsevier Ltd. All rights reserved.

1. Introduction

The Pearl River Delta (PRD) is one of the largest and fastest growing urbanized deltas in the world. Strong economic growth has unfortunately been accompanied by severe soil, air and water pollution, causing widespread environmental and health problems (Greenpeace, 2010; Oizumi, 2011; Ouyang et al., 2006). The nine responsible municipal governments have prioritized sustainable urbanization and industrial restructuring in their respective policy documents (Lu et al., 2017). Their policy adage is to sustain economic growth and preserve environmental quality through ecological modernization. The policies suggest that a cleaner and more knowledge-intensive industrial structure will result in a service economy with higher value added and less physically harmful

emissions (Bayulken and Huisingsh, 2015; Mol and Spaargaren, 2000). Shenzhen proposes to become “a modern international innovative city” in Shenzhen 13th Five Year Plan (SZ Municipality, 2016). Foshan focuses on becoming “an advanced manufacturing base” and “a service center for industries” in the Foshan Urban Plan (2012–2020) (FS Municipality, 2012). Zhuhai states that the various tiers of government have an obligation to develop urban projects that meet the sustainability targets listed in their policy plans and communicated to the public: it is to evolve into “a Beautiful Model City in China” in the Zhuhai Urban Master Plan (2001–2020) (ZH Municipality, 2001).

Fleshing out these ambitions requires a diversity of responses on multiple levels, at multiple scales, and among many actors (Dushenko et al., 2012; Hooghe and Marks, 2003). However, although all levels of government have a shared responsibility in ecological modernization, the physical implementation of these initiatives can eventually only be observed at the local level (Frantzeskaki and Loorbach, 2010; Kes et al., 2013). Since 1949, China has established a unitary governance system. The power is

* Corresponding author.

E-mail addresses: H.Lu-2@tudelft.nl (H. Lu), W.M.DeJong@tudelft.nl (M. de Jong), E.F.tenHeuvelhof@tudelft.nl (E. ten Heuvelhof).

allocated to various levels of governments, including provincial, prefectural, county, township, and village level (Ma, 2005). To reach the environmental targets through eco city and low carbon city projects, the prefectural level administrative units, such as municipal governments, play a key role in these programs. With the ambition to become eco and sustainable, cities adopted various programs, pursuing sustainable initiatives in eco city, low carbon city and smart city concepts (Anthopoulos, 2017; de Jong et al., 2016; Fu and Zhang, 2017a), while still maintaining the economic growth levels. On the one hand, local governments are supposed to meet the sustainability requirements imposed on them by higher levels of government in China (Lu et al., 2017). On the other hand, since national and provincial policies leave many detailed aspects of sustainable urban development unmentioned, only local governments can fill in these specifics when considering their local context (Rydin, 1997). Municipalities hope to create a name and reputation which allows them to attract those investors, firms, human resources, residents, and visitors. The ecological modernization policies fit their goal while also securing support from higher tiers of government at the same time (Caprotti, 2014; De Jong et al., 2015; Joss, 2011; Joss and Molella, 2013). In one report about eco-low carbon city development in China in 2016, nearly 90% of municipalities in China promoted “eco city” and “low carbon city” in their development targets (Fang et al., 2016).

In the Pearl River Delta, as in many other parts of China, the physical shape these city labels take is best exemplified in the emergence of large new towns at the fringes of existing urban areas (Hsing, 2010). It has been observed that the implementation of the social and environmental ambitions underlying these new town projects faces a host of challenges. The notable ones include the interaction between central and local governments, the governing capacity of less prosperous cities and the overblown expectations of adopting technological solutions from other countries (de Jong et al., 2016; Hult, 2013). More generally, many studies also acknowledge the difficulty of integrating issues of sustainability into governance patterns, such as organizational structures and daily operations and routines (Conroy, 2006; Conroy and Berke, 2004; Jordan, 2008). Although some scholars attempt to study the governance of these smart eco projects under the shadow of hierarchy (de Jong et al., 2016; Khanna et al., 2014; Miao and Lang, 2014), few studies to date unearth the policy-making process in eco city and smart city development. It is also unclear to the extent to which actors depend on each other and how the impasses caused by practicalities in the local governance context are resolved.

In this contribution, we examine the specific actors operating within the policy networks involved in three new town projects in the Pearl River Delta, since findings from China are useful due to the size of the under-development eco city and smart city projects. We sketch the organizational constellation in which they operate, their goals, resources and interdependencies and how these evolve. We explain their (sometimes lack of) progress using impasses and breakthroughs resulting from these interactions and interdependencies. We ask ourselves *what is done with the implementation of the ambition underlying the city labels in new town projects on the ground. What are the barriers to realizing the smart eco city ambitions at the local level as seen through the lens of interdependencies among actors in a policy network?*

There is continued academic interest in studying urban governance in China. After 1994, local governments gradually have gained more financial and administrative power through taxation reform (Yang and Wang, 2008; Zhu, 1999). The pursuit for economic growth at different levels of governance and rising competition among municipalities are studied through concepts such as local state corporatism (Hsu and Hasmath, 2014; Oi, 1995, 1992), the entrepreneurial city (Jessop and Sum, 2000; Wu, 2003) and urban

growth machines (Wu, 2015; Zhang, 2014). However, these theories only weakly explain the dynamic positions of actors and organizations in the urban development and focus too much on governments and real estate developers. Complex formal and informal relationships among actors in decision-making processes also triggered scholarly interests. Alongside this trend, policy network theory has been adopted to study urban policy in China, and it has also been used in urban projects more recently.

Here, we lean on their mapping of groups of actors as the first research step but take specific local contexts into account where it appears that specific network settings in which these groups of actors interact are of vital importance to a proper understanding of policy processes and policy outcomes. To the best of our knowledge, this study is certainly not the first attempt to apply policy network theory to understanding decision-making processes in China, but it is the first one to make sense of the impasses and breakthroughs in new town projects.

In what follows, Section 2 first reviews the key concepts in policy network theory and formulates an answer to its applicability in the Chinese context. In Section 3, we briefly present our research methodology. Section 4 will introduce the impressive phenomenon of new town development in China and which groups of actors play which key roles in it. In Section 5, one can read the stories of three different new town projects in three different cities in the Pearl River Delta (PRD) and examine the interdependency among local actors and how this explains project progress so far. In Section 6, a comparative analysis is made of the three cases which allows us to spot the actor dependency map, which illustrates the roles and interdependency of actors in each policy network in three projects and how these affect the impasses and breakthroughs of new town projects. Finally, Section 7 concludes.

2. Policy network theory and its application to China

Policy Network Theory (PNT) is a cluster of concepts focussing on the formal and informal institutional linkages among various interdependent governmental and other actors sharing a common interest in policy-making (Rhodes, 2006). Policy network analysis began as a metaphor and became a theory by developing along the lines of sociological network analysis (Dowding, 1995). PNT explains why policy concepts often fail to be realized on the ground, or to put it more mildly, why good policy intentions are often diluted or twisted during implementation (Hudson et al., 2007; Klijn and Koppenjan, 2000). PNT has been adopted by a great many scholars in Europe and North America to analyse urban development (Bache, 2000; Deas and Ward, 2000; McGuirk, 2000). More recently, the adoption of PNT in urban studies can also be traced in Asian countries, including China and South Korea (Woo, 2013; X. Zhu, 2013a; Y. Zhu, 2013b). Below (1) some essential concepts in PNT are introduced after which (2) its applicability to the Chinese context is examined.

First, policy actors are assumed to have objectives they aim to see realized as if in a game-like network setting and this includes a perception of the problem situation at hand (Van Bueren et al., 2003). These perceptions have evolved based on earlier learning experiences. Both the objectives and strategies are derived from their perceptions. Objectives are concrete (partial) translations of perceptions (de Bruijn and ten Heuvelhof, 1991; Koppenjan and Klijn, 2004).

Additionally, actors require resources or policy instruments to reach their objectives, and some of these resources are owned or controlled by other actors thus creating interdependency (Borzel, 1998; Klijn and Koppenjan, 2000; Marsh and Smith, 2000). These resources include a range of political, legal, financial, organizational, physical and informational instruments or tools that jointly

Download English Version:

<https://daneshyari.com/en/article/8093734>

Download Persian Version:

<https://daneshyari.com/article/8093734>

[Daneshyari.com](https://daneshyari.com)