

***“Territorial Governance and Residential Welfare: Experiences from
Taiwan”***

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Abstract: With the prevailing concepts of public participation and social inclusion, and citizen’s cry for high quality and efficient public services, local governments have faced new challenges in their territorial governance and in sustaining residential welfare. This paper discusses impacts of industrial changes on local territorial governance. Specifically, this paper reports the establishment of a newly-established science park in Taiwan, and its effects on the environment and residents’ perception towards their welfare and actors influencing their welfare. The findings show that, although literature suggests modern governance is networked by various stakeholders of the territory, in Taiwan residents’ mind, the most influential actor that affect their welfare during a time of change is still the public authority – local governments. The other actors have various influences and contributions.

1. INTRODUCTION

In the era of globalization, industrial change and development has brought a variance of unforeseen challenges to territorial governance. This phenomenon is especially evident in the context of regional development related to the establishment and operation of science parks. With the prevailing concepts of public participation and social inclusion, and citizen's cry for high quality and efficient public services, local governments have faced new challenges in governance and public management.

This paper examines the impacts a newly-established science park has on the governance of its surrounding areas, in terms of local economic development, transportation, infrastructure, crime control, and political and social settings. It also inquires into citizen participation in the local governance, and how various stakeholders from different sectors are involved in the governing process to contribute to sustainable local development.

More importantly, this paper will report preliminary findings of a large-scale study of the impacts from a science park development in central Taiwan. With Shitun District in Taichung City and Daya District in Taichung County, Taiwan, as a research target area, this research investigates how globalizing and industrial change processes have affected and resulted aspects of local territorial governance.

This research conducted a large-scale questionnaire survey that interviewed hundreds of residents surrounding the science park in Taichung. This paper thus reports survey results that are related to residents' participation in territorial governance and their perception of their welfare as an outcome of local governance.

2. BACKGROUND

2.1. Globalization and Industrial Change

Near the end of the 20th century has seen the tide of globalization affecting almost every corner on the earth. Increasingly unrestricted and accelerated circulation of people, commodities, capital, money, identities and images flows, with near instantaneous means of communication, through global space. These accelerated, globally circulating flows are said to embody processes of deterritorialization, a process which reconfigures and re-scales forms of territorial organizations such as cities and states (Brenner, 1999). Through reterritorialization, social relations are being increasingly detached and disembedded from places and territories on sub-global geographical scales. Globalization is thus conceived as a reterritorialization of both socioeconomic and political-institutional spaces that unfolds simultaneously upon multiple, superimposed geographical scales.

From the experiences of Latin American, Roberts (2005) found that the impact of globalization on cities is both ambiguous and contradictory. The impact of economic globalization on labor markets and on the configuration of urban space accentuates economic insecurity and urban inequalities. It isolates low-income populations, reducing the public spaces in which they interact with the better-off population as private facilities for health, education and recreation spring up around the city. At the same time,

globalization has promoted the spread of information of their rights among low-income populations (Roberts, 2005: 121-122). Public control is now more likely to depend on citizen participation as an essential ingredient.

Globalization describes a world that is smaller and more interconnected due to many intersecting trends and conditions — communication and transportation; economics; war, terrorism, violence, and ethnic conflict; environmental pollution, natural disasters, epidemics, and climate change; and global migrations. Control over outcomes affects perceptions of globalization. In developed countries with both effective markets and high government capacity, globalization usually equates with opportunities to travel, communicate, tap markets, or influence events. In others, it may mean more uncertainty and risk—economic, social, cultural, environmental, and political (Klingner, 2004). As a result, governing bodies of the localities often face challenges unseen before and have to manage to not only ride the wave of globalization but also to avert and remedy its negative impacts.

2.2. Science Parks in Industrial Development

Since the end of the 1980s, development of the knowledge-based economy, globalization, and international competitive pressure has increased the importance of innovation in local economies. Simultaneously, globalization increasingly differentiates local distinctions arising from respective capabilities and environments. Contemporary neo-liberalism emphasizes place-specific economic policies. In riding the wave of globalization, and in becoming global cities, regional and urban areas have put significant efforts in planning industrial development to revive their economies. Their strategies often involve large-scale urban development projects in order to harness global capital flows (Roman, 2005). One of such projects is to set up industrial and/or science and technology zones, districts and parks to take advantage of resulted economic benefits.

Early conceptualizations of innovation diffusion and growth-pole theory point to a direct relationship between R&D activities and regional development. Recent economic theories of agglomeration and clustering advantages show how clusters are economically advantageous. In an industrial district such as a science and technology park, high-tech and innovative firms generally remain concentrated in specific locations, use shared facilities, and enjoy common economic advantages. These specific characteristics can be transformed into regional development. From this perspective, a science and technology park is seen as an effective tool for integrating industrial and regional development (Hu, Lin, and Chang, 2005).

Science parks seem to embody a vision of economic development. In particular they focus on the importance of cooperation between public, private, and academic interests (Shearmur and Doloreux, 2000). Science parks are thus often seen as, or are hoped to be, the solution to complex political and economic issues in society, for example regional industry problems, the under-commercialization of publicly financed research, a shortage of new product development, and unemployment. At the core of these expectations lies the belief that science is a catalyst to economic growth through its contribution to innovation and further development of high-tech firms, and this belief was further fuelled in the 1980s

and 1990s by the explosive growth and added-value creation in high-tech industries such as information technologies (IT), communication technologies and biotechnologies (Hansson, Husted, and Vestergaard, 2005). With incubators and technology centers, science parks have thus been an alternative in the set of political instruments that ideally cater for reindustrialization and regional development.

In the last few decades, countries have set up science parks in order to boost regional as well as national economies. After the successful experience of Silicon Valley in the United States, authorities of different nations selected domestic areas, built up infrastructure, and put incentives up to attract high-tech research and manufacturing firms to locate in the selected areas. According to International Association of Science Parks, in 2002 there were at least 250 science/technology parks around the world³⁸. These parks and specially planned industrial changes are found to be a significant contribution to a nation's industrial development and its economy.

In Taiwan, the government-led projects have successfully stimulated the regional, and even national, emergence of innovation systems and economic development. After successful economic experiences of Hsinchu Science Park (HSP) since the 1970's, Taiwan established two other science parks. Southern Taiwan Science Park (STSP) was established in 1995 in Tainan County. STSP is comprised of two bases, Shinshi Base and Luchu Base, both near Kaohsiung International Airport and Kaohsiung International Harbour. STSP has set its goal to boost the population of employment to 40,000 people with a turnover of US\$9.6 billion (approximately ECU 7.9 billion) in 2005. The Central Taiwan Science Park (CTSP) was established in 2002 in the greater Taichung area.

3. LOCAL TERRITORIAL GOVERNANCE IN INDUSTRIAL CHANGE

Contemporary discussions of regional governance increasingly emphasize the need for administrative flexibility, regionally coordinated economic development strategies and the problem of intensified global interspatial competition (Brenner, 1999). For science parks to be more than a form of glorified property development, Shearmur and Doloreux (2000) also argue that there is an urgent need for a fundamental transformation in the prevailing thinking of economic planning and urban development. In the course of industrial change, local territorial governance has to modify and adapt to the ever-changing environment.

3.1. Governance

“Governance,” defined narrowly, is the authoritative responses by which governments meet demands and manage resources. It may also refer to a change in the meaning of government, with new processes which focus on “self-organizing, inter-organizational networks characterized by interdependence, resource exchange, rules of the game and significant autonomy from the state.”(Rhodes, 1997: 15) Beside networks, governance structures also include hierarchies, markets and communities (Bovaird and Löffler, 2002: 16).

³⁸ <http://www.iasp.ws/>, accessed 2005/8/25.

There have been three trends in the change of modern governance (Jacob, 2004: 8). First of all, a variety of actors involved in the policy making process is enlarged. More democracy and new forms of participation are called to safeguard the affected stakeholders' participation in the policy making process. Second, more policy instruments are applied. New instruments are of less command and control, and more economic, flexible, and cooperative between government and target groups. Third, the importance of the level of national policy making is decreasing. International as well as sub-national levels are gaining more importance. Authority of the central government towards non-state actors is also declined.

Networks avoid many of the problems of hierarchical co-ordination, providing a framework for efficient horizontal co-ordination of the interests and actions of various actors (Luckin and Sharp, 2004: 1488). Therefore, governance is a form of network management and shows itself to be a way of assigning collective resources, which contrasts with the other two main ways of carrying out this task: market or hierarchies. Governance regulates and designates collective resources through relations with both the civilian population and with the other levels of government (Brugué and Vallès, 2005: 198). Shift from government to governance may result in opportunities for dissenting voices to be heard within policy-making processes, a need for public authorities to justify their performance and to increase possibilities in innovation and responsiveness (Luckin and Sharp, 2004: 1489).

Government capacity affects perceptions of governance. In developed countries, governance usually means maintaining government's ability to coordinate policy, gather information, deliver services through multiple (often nongovernmental) partners, and replace hierarchical bureaucracies with more flexible mechanisms for managing indirect government. In developing countries, it probably means establishing government's ability to deliver vital public services (through core administrative functions like budgeting, human resource management, and program evaluation) while also focusing on the more fundamental changes (for instance, citizen participation, decentralization, innovation, and entrepreneurial leadership) necessary for effective political systems (Klingner, 2004).

3.2. Local Governance

The past decade has seen a strong international trend towards the improvement of local service delivery. Conventional local management strategies need to be widened to include "local governance" aspects (Bovaird and Löffler, 2002). At the beginning of the 21st century, local communities are facing new challenges. These challenges imply that local authorities (Bovaird and Löffler 2002: 11):

- need more collaboration with other agencies in policy-making and implementation, involving private firms, the voluntary sector and higher levels of government;
- need to engage all partners in issues of local strategy, planning and resource mobilization, as well as in service delivery;

- need more intensive and widely spread knowledge management, not only within local public agencies but also in the networks of stakeholders within the local area; and
- need to maintain sustainability, taking into account the needs of future generations and the strategic knock-on effects of local decisions on other stakeholders and other areas.

The modernizing local governance debate has challenged conventional boundaries between managerialism and public governance theory, and new models are required to conceptualize this mixture (McLaughlin, 2002: 405). Hence, there has been a movement from traditional local government to contemporary local governance. A significant part of European Union (EU) literature uses the concept of governance to explain the experience of governing Europe without traditional nation-states formal power. Also, some managerial literature uses the term governance as a way to move from either a hierarchical or competitive organization to new forms of relational administration. At the same time, traditional literature on intergovernmental relations has also included the concept of governance as a way to improve the understanding of complex public policies. Finally, the governance debate has been placed in the specific domain of local government.

Stoker (1998) refers local governance as an inter-organizational network characterized by interdependence between organizations, continuous interaction between network members, game-like interactions, and a significant degree of autonomy from the state. Governance is about how social resources are assigned and distributed, a form of regulation that is more collective than individualistic. It blends together the concepts of bureaucratic style of administration operating by means of authority and power, and of the new public management on government via influence and negotiation. Local governance is therefore populated with various agents (public, private, and voluntary, and citizens and public agencies) connected to one another (by a network) in which they negotiate and get involved in making policies and in their implementation (Brugué and Vallès 2005: 197-198).

Bovaird and Löffler (2002: 16) formally define “local governance” *as the set of formal and informal rules, structures and processes which determine the ways in which individuals and organizations can exercise power over the decisions (by other stakeholders) which affect their welfare at local levels.* (original emphasis). With this definition, local governance requires the cooperation between and among public authorities and other stakeholders. It involves setting of formal and informal rules and the negotiation between stakeholders seeking to alter these rules. Local governance relies on market structures, hierarchical authority and cooperative networks at the same time.

Local governance refers not only to the role and functions of local government, but also the manifold interactions between local government, local citizens and other groups. Purpose of these interactions is to create sustainable local development in term of service delivery, infrastructure development and spatial planning. The emphasis on governance relationships implies emphasis on citizen or stakeholder participation in decision-making and planning (Hamann et al., 2005: 63). Among the stakeholders, community sector organizations are

widely seen as making significant contributions to the localities by increasing community capacity or boosting local social capital. Community sector organizations involving in local governance networks ensures community views are represented in policy process (Luckin and Sharp, 2004: 1485).

4. CHALLENGES FROM SCIENCE PARKS TO LOCALITIES

According to the UK Science Park Association's definition, a science park is a property-based activity configured around the following (Massey et al., 1992: 14): formal operational links with a university or other higher educational or research institution, the formation and growth of knowledge-based business and other organizations normally resident on site, and a management function which is actively engaged in the transfer of technology and business skills to on-site organizations. For localities, objectives of science parks include creating new jobs for the region and improving performance of local economy (Massey et al., 1992: 21).

However, science parks not only bring about positive consequences but sometimes also negative ones. In the 1960s, Japan's central government moved industrial and R&D establishments to local cities and rural areas to activate local economies. Although initially welcomed by related local governments, local citizens began to blame pollution from the industries (Eto, 2005). Studying Canadian science parks, Shearmur and Doloreux (2000) have found that there is no link between the opening of a science park and employment growth in high-tech sectors. Science parks do not appear to have any distinguishable effect upon regional industrial structure, and in particular they have no discernible effect upon high-tech employment – whether in the manufacturing or in the service sectors.

As a matter of fact, in the experiences of the 1st science park in Taiwan established more than two decades ago, numerous social, economic, political and environmental effects from the park have made local governance of the surrounding areas a much more difficult mission, if not mission impossible.

Establishment and functioning of a science park usually brings in enormous amount of population. All the needs of the residents and workers influence local economy, industries, culture, living, environments, etc. Hsinchu Science Park (HSP) development in Taiwan has indeed brought a variety of impacts on its localities and local governance, in terms of transformation of social structure, local culture, living and natural environment. HSP has thus exerted great influences on local development, including industrial shifting, consumption changes, and urban landscape transformation (Leu, 1997). These impacts did improve demographic quality and quantity of population and stimulate local development.

However, in the course of the HSP development, local residents felt more negative impacts than positive ones. Leu (1997) concluded that the major effect of the science park development lies in promoting national economic development, while marginalizing the local economic and social effects. The planned industrial change and development not only dramatically altered local community life, it even threatened their living spaces. In this era of democracy, residents' dissatisfaction and local needs usually feed back to local authorities. Local governments always have to struggle to meet the needs of the residents

as well as the Park, which is extremely challenging. While businesses in the Park and national economy may enjoy all the benefits of the industrial development, local communities, residents and authorities were actually strenuously bearing its costs.

5. RESEARCH CONTEXT AND QUESTIONS

Industrial change and globalization has brought positive as well as negative impacts to Taiwan's economy. They bring up an overall increase in averages of income, living quality, etc. However, they also create local problems due to regional varieties. Effects of the interaction between global community and local communities has lead to contradictions and controversial issues in national development, regional and urban development, social development, and functioning of communities. This contrast of and conflict in globalization versus national development and globalization versus localization undoubtedly is very much worth attention from social scientists and researchers. It is related to macro, global phenomenon as well as micro, day-to-day living. Therefore, observation from a community/regional point of view as a research focus will provide a more direct and profound interpretation of how local territorial governance in Taiwan have experienced the impacts and challenges of globalization and industrial development, and how it has continuously adapted and evolved in industrial composition, social structure and community life.

With Shitun District in Taichung City, located in central Taiwan, as a primary research target area, as well as adjacent Daya district in Taichung County, a research is conducted to investigate how globalizing and industrial change process has affected and resulted aspects of its local territorial governance. Shitun District and Daya District are located in the north-western part of Taichung City. Central Taiwan Science Park (CTSP), established in 2002 and surrounded by Shitun District and Daya District, is located in the Taichung City and Taichung County neighboring area, with its major part inside Taichung City limits. Its primary tenants includes optoelectronics, integrated circuits, computer and peripherals, telecommunication, biotechnology, and precision machinery industries. It has thus far attracted famous companies, like ProMOS Technologies (ProMOS), a leading advanced semiconductor memory producer, AU Optronics, the world's third largest manufacturer of large-sized thin-film transistor liquid crystal display panels (TFT-LCD), and Corning, located or even operating in the park. The CTSP expects, in the short run, to expand to 1,765 acres in area, a yearly turnover reaching NT\$1,000 billion dollars (approximately ECU 21.5 billion), and 150 on-park companies hiring 80,000 employees³⁹.

What has been witnessed is that in the past half century Shitun District and Daya District have experienced agriculture, industrialization, de-industrialization, and re-industrialization. Population mobilization in and out was regional and domestic, and has now been more and more internationalized and globalized. All these changes and shifts have been manifest in spatial structure, social structure, social lives, and urban and local governance.

³⁹ <http://www.ctsp.gov.tw/chinese/02intro/07future.aspx?v=1&fr=2&no=173>>, accessed 2007/10/08.

This research investigates the aspects of local territorial governance in the target area. The primary subjects of investigation are one the two major groups of actors involved in the establishment and functioning of a science park (Shearmur and Doloreux, 2000). Non-local actors are various cross-national or even global stakeholders who have access to strategic resources and assets that crosscut differentiated networks and will potentially benefit from science park formation in different urban and regional economies. Local actors, as the subject of this research, generally comprise businesses in the host urban and/or regional economies, government institutions and research organizations.

Rapid urbanization, industrialization, and industrial development in the past few decades has made metropolitan areas in Taiwan over-populated, and has put pressure on its environmental sustainability. Thus, to satisfy spatial needs in various kinds of development and to increase land use efficiency in order to lessen negative environmental impacts, central and local governments in Taiwan have utilized policies, developmental planning, and land use regulations in order to effectively lead to healthy development in metropolitan areas. Numerous models of urban planning and governance have been suggested, including merging of local governments, metropolitan governments, regional governmental council, metropolitan service management agency, etc. However, with dramatic changes in the social, economic and political contexts, existing systems of territorial planning and related regulations and policies do not satisfy the needs of modern planning and spatial development.

Taichung is a newly developed and continuously growing city. During the last decades Shitun District and Daya District experienced expansion and growth unseen before. In the past few years, set-up and operation of large enterprises in the CTSP has unpredictable impacts and influences on the development and community lives of both districts.

From the community organization network point of view, take Shitun District as an example, Taichung City government is the converging point of all kinds of institutes in Shitun. Shitun District Office is the node of local community developmental affairs, connecting sub-district neighborhood administrative offices, community development associations, and other community organizations. Therefore, in the governance and development of Shitun District, actors include central government, Taichung City government, Shitun District Office, 39 sub-district neighborhood administrative offices, residents and citizens, community organizations, non-profit organizations, community development associations, local businesses and local politicians. Territorial governance is an outcome of these actors' networking, interaction, collaboration and confrontation.

With the prevailing concepts of public participation and social inclusion, and citizen's cry for high quality and efficiency public services, governments have faced new challenges in local governance and public management. What is more, governance and local governance is to be grounded in dialogue, discourse and engagement (Bingham, 2006; Davies, 2007; Sintomer and De Maillard, 2007), that is, the basics of participation. This study thus examines what role the above-mentioned multiple actors play in maintaining local living quality. More specifically, this study surveys local residents to find out their expectations and perceptions of the roles these actors play and contributions they have. What effects do the residents feel about from the establishment of CTSP? What actors do the residents

perceive as the responsible ones for their welfare? What actors do the residents perceive as the most influential ones for their welfare? How capable are the various actors of maintaining and improving local environment? How much have the actors fulfilled their duties? Are the perceptions of residents corresponding to the argued statement of local governance, i.e., stakeholders have roughly equal impacts in shaping welfare of local residents? More importantly, how have residents themselves acted for and contributed to maintaining and improving living quality?

6. RESEARCH METHODS AND FINDINGS

To fully answer its research questions, this study conducted a large scale face-to-face interview survey. The interviews were conducted from October of 2006 through July of 2007. A total number of 2,600 households were randomly sampled from 89,294 households (281,362 population) in the targeted two districts. When a household is selected, interviewers were sent to the household, and an interviewee was then randomly sampled from that household. Each interview took approximately 30 minutes. At the end, a total of 613 valid interviews were conducted.

The findings show that, although most of the residents of the surrounding areas of CTSP are concerned for their communities, very few of them take actual, regular actions. Eighty-five percent of the respondents (n=613) report that they do put attention to local and community affairs, and that they care about happenings in and around their neighborhoods. However, only ten percent of them are members of their community organizations. Approximately the same portion of the residents participate in the activities, meetings and discussions of their community organizations.

Nearly fifty percents of the respondents express that, in the past five years, neighborhood traffic conditions have worsened. More than half of them indicate that in the same period neighborhood security has deteriorated. Furthermore, even more residents, 56 percent of them conceive that area economic prosperity went down in the meanwhile.

However, perhaps due to increased related demands from the CTSP, nearly 70% of the residents claim that supplies that support their living necessities have increased during the past five years. Forty-two percent report that sanitary conditions of their communities have improved, while about the same portion believe they remain unchanged. In general, forty percent of the residents agree that living quality of their communities have ameliorated, while only fourteen percent hold an opposite view.

When asked whether governmental agencies are responsible for maintaining and improving living quality of their communities, more than eighty percent of the respondents agree. As displayed in Table 1, seventy percent agree that governmental agencies are capable of maintaining and improving living quality of their communities, but only fifty percent confirm that governmental agencies have fulfilled such duties. Therefore, about half (53%) of the respondents approve governmental agencies' contribution to their living quality.

When asked whether community/neighborhood organizations are responsible for maintaining and improving living quality of their communities, sixty-six percent of the

respondents agree. Sixty percent agree that community/neighborhood organizations are capable of maintaining and improving living quality of their communities, but only forty-five percent confirm that such organizations have fulfilled such duties. Therefore, about the same portion (45%) of the respondents approve community/neighborhood organizations' contribution to their living quality.

When asked whether general non-profit organizations are responsible for maintaining and improving living quality of their communities, only thirty-two percent of the respondents agree. Even fewer, 30%, agree that non-profit organizations are capable of maintaining and improving living quality of their communities, but only 16% confirm that such organizations have fulfilled such duties. Therefore, about the same portion (16%) of the respondents approve non-profit organizations' contribution to their living quality.

When asked whether residents themselves are responsible for maintaining and improving living quality of their communities, 91 percent of the respondents agree. Nearly eighty percent agree that governmental residents are capable of maintaining and improving living quality of their communities, and 81 percent confirm that residents themselves have fulfilled such duties. However, fewer respondents (74%) of the respondents approve residents' contribution to their living quality.

Comparing various entities, most, 44%, of survey respondents agree that governmental agencies are the most influential one that influence their neighborhood living quality. 28% of the respondents name community/neighborhood organizations as the most influential entities, while about the same portion (27%) indicate residents themselves as the most influential. Only nearly one percent conceive non-profit organizations in this case.

Table 1: Various Actors' Role in Maintaining and Improving Living Quality, as Perceived by Survey Respondents (n=613).

Actor \ Role	Governmental agencies	Community/ neighborhood organizations	Non-profit organizations	Residents
Are responsible for	80.8%	66.1%	31.5%	90.7%
Are capable of	70.2%	60.0%	29.4%	79.7%
Have fulfilled such duties	51.0%	45.2%	16.2%	80.7%
Made contribution to living quality	53.7%	44.9%	16.0%	74.0%
Most influential	44.0%	27.6%	0.8%	27.2%

How do residents perceive their participation in local governmental decision-making related to their living quality? 38% agree that they are allowed to take a part in the process, while 61% do not perceive that they have opportunities to participate. Thirty-five percent indicate that local residents do take these opportunities to have a say on the policies, while

65% hold a negative view. Only forty percent of the respondents believe that residents' participation in the policy making process will influence local government's final decisions, while more, 60% are pessimistic of the impact.

7. CONCLUSION

With the prevailing concepts of public participation and social inclusion, and citizen's cry for high quality and efficient public services, local governments have faced new challenges in their territorial governance and in sustaining residential welfare. This paper discusses impacts of industrial changes on local territorial governance. Specifically, this paper reports the establishment of a newly-established science park in Taiwan, and its effects on the environment and residents' perception towards their welfare and actors influencing their welfare.

The findings show that, although literature suggests modern governance is networked by various stakeholders of the territory, in Taiwan residents' mind, the most influential actor that affect their welfare during a time of change is still the public authority – local governments. Community organizations play a minor role in keeping local living quality, while non-profit organizations are deemed almost insignificant. Residents see themselves as important actor in sustaining their own welfare, but feel less influential in doing so.

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