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## **RELIABILITY AND FAILURE OF POLICY IMPLEMENTATION OF INCLUSIVE DESIGN: CASE STUDIES OF OPEN SPACE IN BEIJING, TAIPEI AND HONG KONG**

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### **ABSTRACT**

This paper explains the policies and examines the implementation of inclusive design of open space for the visually impaired (VI) in China. We study three cases-Beijing, Hong Kong and Taipei-to understand the relationship between policies and their implementation. Based on this analysis, we highlight different kinds of relationships. We identify the causes of failure in the three cases, and suggest ways in which policies can be reliably implemented to facilitate the interconnection between policies and implementation.

**Keywords:** visually impaired (VI), inclusive design, open space.

### **INTRODUCTION**

The implementation of inclusive design in open space has attracted significant attention when examining the developmental status of a city. Open spaces are based on the concerns of 'design for all' and 'open to all', and allow spaces for public gatherings, relaxation and communication (Aubock and Cejka, 1996; Siu, 2010). It is generally considered that a well-developed city should thus possess sufficient and practical inclusive design. The content and coverage of inclusive policies and how they are established is considered to be one of the important determinants for the effectiveness of the implementation process. The relationship and links between policies and implementation are crucial to examine the causes for success and failure in the implementation of inclusive policies.

This paper reviews the policies and the existing inclusive design through an examination of three cases from Beijing, Hong Kong and Taipei. While these three cities are located in China, they have different inclusive policies and implementation processes. We examine the relationship between policies and their implementation through the study of inclusive design in three cities in China with similar cultural contexts. This approach may also reveal the causes for their reliability and failure. In addition, this paper further suggests several ways in which policies can be reliably implemented. This paper chiefly concerns the policies and inclusive design for VI persons, as many VI persons are directly or indirectly excluded from open spaces (Siu, 2012) and their needs are seldom addressed (Faruk *et al.*, 2008).

### **METHODS**

#### **The selected districts in Beijing, Hong Kong and Taipei**

In Beijing, we visited three old districts, namely Xicheng, Dongcheng and Chaoyang, Figure 1. The population densities (number of persons per km<sup>2</sup>) of these districts were 24,372/km<sup>2</sup>, 21,881/km<sup>2</sup> and 7,530/km<sup>2</sup> respectively, ranking them in the top three among all districts in

Beijing (Beijing Municipal Bureau of Statistics, 2010). Several *hutongs* (traditional residential areas) were also located in these districts. Old and newly built neighbourhoods coexisted in these districts. In this study, we visited 15 open spaces, including large parks, community parks and squares.



Fig. 1 - Locations of Xicheng, Dongcheng and Chaoyang districts in Beijing

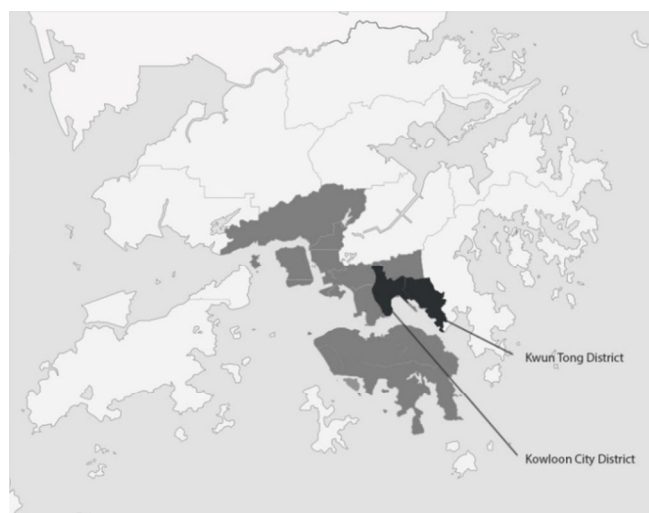


Fig. 2 - Locations of Kwun Tong and Kowloon City districts in Hong Kong

In Hong Kong, we visited two old districts with high population densities, namely Kwun Tong and Kowloon City, Figure 2. The population densities were 55,204 for Kwun Tong and 37,660 for Kowloon City, ranking them the first and sixth highest respectively among all districts in Hong Kong (Census and Statistic Department, 2011). In Kwun Tong, the median monthly income was HK\$15,960 (approximately US\$2,046), which was the lowest among all districts in Hong Kong. The nature of the low income and high-density populations in these selected districts provided a good laboratory for researchers to evaluate the policy implementation of inclusive open spaces. In these two districts, we visited 15 open spaces, including parks, outside seating areas and gardens. Nine of the 15 were owned by local authorities, while the others were privately owned.

In Taipei, we selected Da'an and Zhongzheng districts as the core areas for field research, Figure 3. The population densities in these two districts were 27,283/km<sup>2</sup> and 20,975/km<sup>2</sup> respectively, ranking them the first and fifth highest among all districts in Taipei (Department of Household Registration, 2017). In the two districts, we visited 15 open spaces, including parks, community parks and pocket parks.

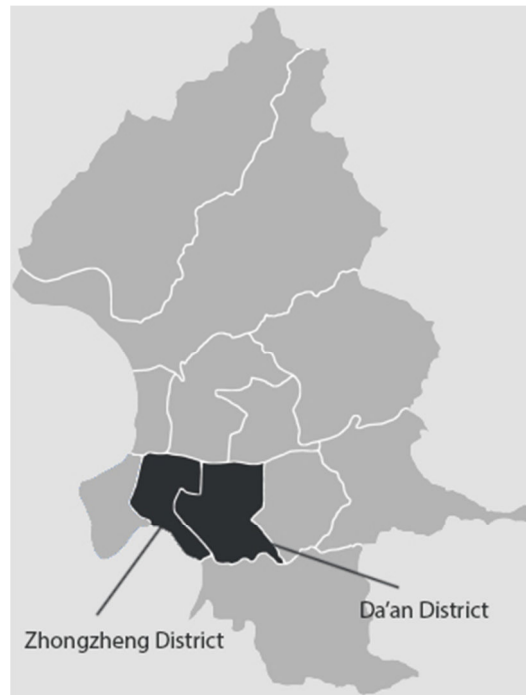


Fig. 3 - Location of Zhongzheng and Da'an districts in Taipei

## Procedures

An empirical comparative study was conducted in Beijing, Hong Kong and Taipei in 2017. Data were collected from multiple sources, such as documentation, observations and interviews. Documents related to inclusive policies were reviewed. We visited 45 parks, including large parks and small outside seating areas in the three cities. Photos and notes were taken to record on-site observations made by the researcher and situations. In addition, with support from organisations for the VI in the three cities, 36 VI persons aged between 18 to 75 years were recruited to provide their opinions on the existing design of open spaces. Each interview took approximately 45 to 60 minutes to complete. To assist the VI persons to express their views freely, we conducted unstructured interviews to gain in-depth information from the respondents. These unstructured interviews were more similar to 'conversations' than 'interviews'. The respondents were encouraged to speak freely without feeling limited by any pre-selected topics or confined scopes (Gray, 2009).

## RESULTS

### Policy implementation of inclusive design in Beijing

Figure 4 shows an example of a failure in policy implementation of inclusive design in Beijing. According to the Codes for Accessibility Design (2012), 'warnings of hazards shall be provided at dangerous areas' and 'no telegraph pole or any obstacle are allowed to put on the tactile paths'. However, many obstacles, such as sharing bikes and bollards, were placed

in front of the entrances or along the access routes in the open space. It was thus inconvenient or dangerous for people with disabilities, especially VI persons to approach the site. In the interviews, most of the respondents in Beijing indicated that they did not trust the inclusive design provided in the open spaces, such as tactile paths, due to the weak implementation and lack of maintenance. It can thus be argued that the inclusive design for VI persons that was implemented based on the policies and guidelines was not reliable. Most of the obligatory policies related to inclusive design were poorly implemented or not implemented at all.



Fig. 4 - An example of a failure in policy implementation of inclusive design

### **Policy implementation of inclusive design in Hong Kong**

In Hong Kong, the policies regarding inclusive design were better implemented in public open spaces than privately owned open spaces. In some public open spaces, tactile warning strips were provided in front of the stairs to inform VI persons about the potential hazard (see Figure 5). Moreover, some step edges were designed with a sharp contrast by using a different material to the ground to warn users. However, in some privately owned open spaces, the colour of the stair edges was in low contrast to the ground, to maintain a visually appealing appearance. Tactile warning tiles were only provided in low contrast colours or not provided at all (see Figure 5).

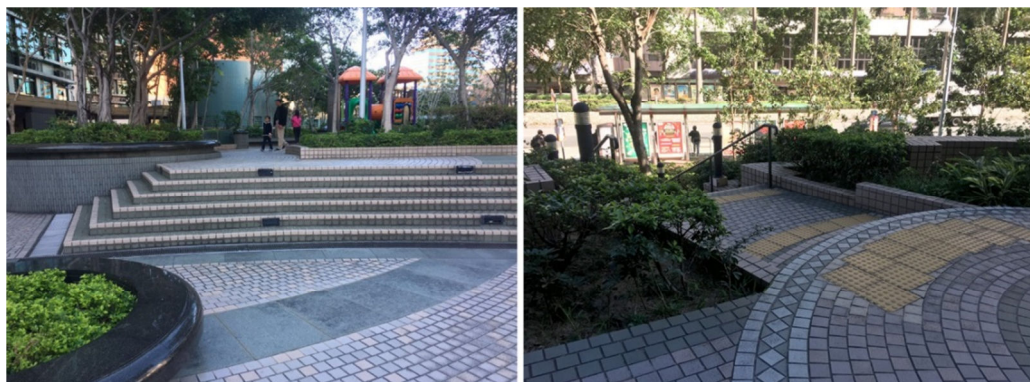


Fig. 5 - Privately owned open space (left) and public open space (right)



In the interviews, the VI persons in Hong Kong said that they still had to rely on the inclusive design provided by local governments. They emphasised that they would use them if they were able to locate them. However, they also mentioned that the tactile paths sometimes deceived them. Although it may not lead to danger, it did discourage users and wasted their energy. The information provided sometimes brought about confusion for the VI persons interviewed in this study. For instance, the tactile path would directly guide them to the toilet even if they did not intend to go there.

### Policy implementation of inclusive design in Taipei



Fig. 6 - Barrier-free design in open spaces was designed for wheelchair users, but not for persons with sensory impairments

In Taipei, policies of inclusive design were promulgated to guarantee the availability of barrier-free design and assist people with disabilities to attain independence and develop their potential. However, most of the barrier-free designs in open spaces in this study catered only for wheelchair users, elderly people and young children, rather than persons with sensory impairments (see Figure 6). In the interviews, most of the respondents said that they sought help, rather than relying on the barrier-free facilities to access the destination. In fact, many Taiwanese were willing to offer help to VI persons. However, this also weakened the confidence of VI persons to be independent. Some respondents said that they had been recommended to go outside as infrequently as possible, even though they had obtained good training from the trainers and were capable of going outside alone.

## DISCUSSION

### The relationship between policies and implementation

In the three cities, the local authorities promulgated policies to ensure that persons with disabilities have equal rights to access public spaces and services. However, according to the data, the three cities had significantly different characteristics in their policies (see Figure 7). For instance, in Beijing, the policies were centralised so that the government, as the highest authority for legislation, issued most of the inclusive policies officially. In Hong Kong, the policies related to inclusive open spaces were scattered in various laws, regulations and

design guidelines. In Taipei, the structure of the policies was quite different. The policies relating to barrier-free design of open spaces were issued at different levels, from the constitution, the highest level of law, to local rules and ordinances. Taiwanese policies have a backbone structure, meaning that all details at different levels are coherent and correspond to each other. Moreover, while examining the implementation of inclusive design in the three cities, we found that the processes in Beijing and Hong Kong were government-active/citizen-passive. Taiwan, by contrast, implemented inclusive policies through a government-citizen collaborative approach. In contrast to the top-down strategy applied in Beijing and Hong Kong, Taipei adopted both top-down and bottom-up strategies to implement the policies in inclusive open space.

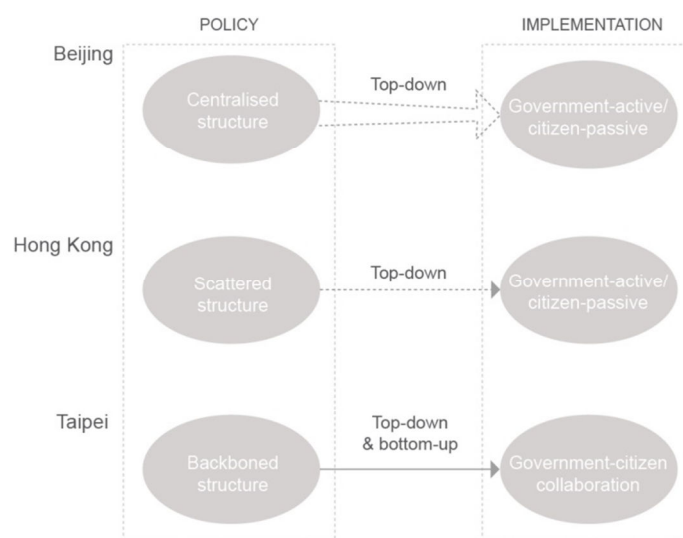


Fig. 7 - The relationship between policies and implementation in Beijing, Hong Kong and Taipei

### Reliability and failure of policy implementation in the three cities

The three cases indicate that a gap exists between policies and their implementation. Identifying the causes of failure is essential to address this gap. In the following section, we discuss the causes of failure in Beijing, Hong Kong and Taipei. The causes include a (1) lack of clear instruction, (2) lack of feedback channel, and (3) imbalanced emphasis on a particular type of disability.

*Lack of clear instruction.* The cases in Beijing showed that the centralised top-down policies related to inclusive design for VI persons were too general to implement. For instance, while it used words such as ‘must,’ ‘must not,’ ‘should’ and ‘should not’ with regard to certain rules, it did not provide detailed guidance on how and why the policies should be implemented. Due to the lack of clear instruction, the policy implementation mostly failed to achieve its original purpose.

*Lack of feedback channel.* Compared to Beijing and Taipei, Hong Kong regulations and design guidelines related to VI persons were more detailed. However, the details were scattered over different kinds of policy. The scattered structure made following up difficult for designers and builders. The designers sometimes had to investigate different policies at the same time to sort out how inclusive design should be set up in the city. In addition, sometimes the inclusive design provided incorrect information to the VI persons. The government-active/citizen-passive implementation approach made it challenging and problematic to collect feedback, and the inclusive design did not improve, and sometimes created chaos and

misled the users. The VI persons could only share their opinions about the inclusive design through different channels.

*Imbalanced emphasis on a particular type of disability.* In Taipei, the policies related to barrier-free environments were widely discussed by governments and researchers. The backbone-structured policies provided detailed and systematic guidance on how inclusive design should be included in society. Moreover, city dwellers were keen to participate in the community activities to enhance the quality of open spaces, such as supervision and maintenance. The government-citizen collaborative approach successfully cultivated a barrier-free living environment for people with disabilities. However, the VI persons did not gain adequate benefits from the inclusive design, as their needs were not directly addressed. We found that the government was prepared to sacrifice the rights of VI persons to meet the satisfaction of other users. For instance, most of the tactile paths in the public spaces were removed as the protruded dots/strips caused difficulties for wheelchair users to ride across the street.

#### *Implications for reliable inclusive design of open spaces*

The findings indicated that there is no universal set of rules to ensure a reliable approach to policy and implementation. However, some possible suggestions are still necessary to increase the reliability of policy implementation of inclusive design for open space. We summarise the suggested approaches below.

1. Providing specific design guidelines and standards by using appropriate illustrations, precise definitions and descriptions, rather than general and vague terms. Examples and clear illustrations can facilitate designers and builders to follow the requirements appropriately.
2. Understanding user behaviour from the perspective of real users, rather than the perspective of policymakers and experts. To identify the actual barriers and requirements, participatory action research should be adopted to facilitate the review, planning, evaluation, adjustment and implementation of policies. It can provide an in-depth understanding of the various concerns from different stakeholders, which are neglected or misunderstood by designers and governments (Siu and Xiao, 2017).
3. Considering the widest spectrum of users. The government should pay more attention to sensory impaired persons in open spaces. In terms of city users, the government should consider not only wheelchair users, elderly people and young children, but also sensory impaired persons.
4. Ensuring effective communication and evaluation during the process of policy implementation. This enables design requirements to be conveyed from policymakers to builders. Licenses should not be issued to open spaces that fail to implement inclusive design policies.
5. For some privately owned open spaces, economic incentives such as tax incentives and rewards can be offered to developers if they implement the policies and design guidelines appropriately.

## **CONCLUSIONS**

This paper contributes to the current literature on the reliability and failure of policy implementation of inclusive open space. We found varying degrees of failure in policy implementation through our examination of three Asian cities with similar cultural contexts. Most of the existing open spaces were designed in a *so-called* inclusive approach, with the

purpose to satisfy local governments, rather than real users. In many selected cases, open spaces were not equally available for all city users and not user-friendly for VI persons. Based on the results, this paper also identified three different policy structures and the relationship between policies and their implementation.

Based on the analysis, we identified the factors affecting the achievement of inclusiveness and the causes of failure for implementing inclusive design for VI persons in the three cities. We further suggested five ways in which policies can be reliably implemented based on our analysis of the failed cases. These findings and suggestions can benefit other densely populated cities with similar living situations.

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