Role of Contemporary Landscape Architecture in Public Spaces in Terms of Shaping Architectural Education and Recreation - Selected Examples from China

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Abstract. In full respect of the original, historical, cultural and natural conditions of the original site, contemporary Landscape Architecture can help to convert the site into public space characterised with a full range of functionalities. Extending the social offer of given sites with leisure and recreation options, the landscape architecture contributes to reshape public spaces into better and more sustainable places. Referring to three different case studies exemplifying the transformation of abandoned sites into functional public space during urban and rural regeneration in China, the paper focuses on the research of regeneration of sites converted into public space intended to provide recreation, leisure and educational opportunities to local communities. Through the application of a variety of forms and techniques, the contemporary Landscape Architecture can increase the appeal of public space and its vitality. This paper aims to present the results of the analysis of three different modern landscape designs implemented in abandoned areas. The referred to examples clearly testify for the fact that the contemporary landscape architecture can effectively promote the integration of education and leisure to create open space compliant with the ecological principles of sustainable development, i.e. where identification and assessment of the relationship between Landscape Architecture and the surroundings, identification and assessment of the diversity and attractiveness of public space and possible Landscape Architecture solutions can turn into direct benefits for the space users.

1. Introduction
Today, despite the fact that rapid urbanization exerts a big impact on people’s lifestyles, which, in turn, also have brought about changes in the public space structure, contemporary Landscape Architecture tends to neglect the values of cultural identities of the cities, reverting to the values of the natural environment.

A landscape designer is free to draw inspiration from the natural world, to imitate serrated mountain peaks or the types of cultivation, incorporating therein the expression of his emotions or culture. Thus, the outcomes of landscape architecture can be perceived as the works of art that are free of any false pretences of art for art’s sake and that incorporate such aspects as social inclusion or enhanced sustainability [1].
Some researchers on the contemporary landscape have voiced their opinions that there are more similarities between traditional and modern landscapes than it was previously suggested. The results of their research have also shown that traditional models have been successfully incorporated into contemporary urban public space designs in China. [2]. Bo. Yang’s research points out that the Chinese-style gardens predetermine the perception of a traditional Chinese landscape both by the Chinese and the foreigners. Thus, such gardens can easily serve as models for designing some smaller areas of modern public space. Human behaviour has come into the focus of the psychologists and sociologists, as well as the urban planners, architects, landscape architects and all those involved in the process designing man-made environment [3].

Chinese rural areas encompass a variety of public space types: farmers’ markets, streets or roads, squares, churches, etc., which, however, depending on cultural, social, religious and other factors, assume different local attires. Any public space has its distinct function to serve, these typically include: a place for recreation, meeting space, space for farming activities, public celebrations and festivities or sometimes even religious rites. [4]

The subject matter of this research paper is to analyse the role of landscape architecture in the creation of urban public space and in the identification of the possibilities of its practical applications in public urban space. Failing to adopt a studious approach to the issue, some urban planners tend to disregard the opportunities landscape architecture can offer to urban public places, undermining the essence of a city and its public space being a multi-layered, complex structure, where unity and contrasts, noise and silence can go along and play their unique roles, taking up a relevant sharing in the overall perception of the identity of a given city. The paper further moves to research and to identify the potential areas where landscape architecture can contribute to the perception of urban public space, based on some examples of such a contribution. A landscape architect, whose work gets incorporated into urban public space, needs to be aware and know what means to use to harness the space potential to meet the desired objectives. [5]

Landscape architecture as a field of professional activity and an academic discipline focuses on the shaping of various scales of the landscape [6]. The typical design projects include such issues as: increased urban engagement, creation of a wide sense of communal inclusion and diversity of vibrant public spaces by improving transportation, the quality of inhabitants’ lives and connectivity through general public access.

The research presented in this article is aimed to analyse the impact of contemporary landscape architecture on public space in terms of the architectural education, recreation, design techniques, ecology and communal functions. For the purpose of three different case studies of respectively Chinese rural, suburban and urban areas were selected. These are: the Chinese rural area revitalization project Zhongguancun - playground park for children, Fire Culture Park in Chengdu and the innovative campus design combined with rice paddy landscape within the premises of the Shenyang Architectural University.

The results of the three case studies emphasize the role of contemporary landscape architecture in the conversion of abandoned public areas as well as in the promotion of education integrated with recreation and leisure in compliance with sustainable development. Through the identification and assessment of the relationship between Landscape Architecture and the surrounding environment; assessment of diversity and attractiveness of the public space in question and assessment of the beneficial role of landscape architecture, we can easily arrive at viable solutions for local communities.
2. Characteristics of the areas covered by this research paper

2.1. Children’s playground in the countryside
The first case study concerns a children’s playground located in the north of Guizhou mountainous region, in the vicinity of Zhongguancun village, Tongzi County, Guizhou Province, China. The region is much different from Beijing Zhongguancun, which, in contrast, plays a key economic role in the area. The village Zhongguancun, surrounded with the mountains, is a remote location poorly communicated with any larger towns or cities. It takes an hour drive along a mountain road to get to the nearest town. Many children are here regularly left under the care of their old grandparents while the parents have to work in the cities. Because of the economic conditions and poor social awareness, the parents only care how to provide for the children financially until they grow-up, neglecting the process of educating and bringing them up. Coining the idea of a playground for the children, the designer wanted the children left by their parents in the village to feel cared for and loved by the society. That is the reason why designing the playground, the architect was inspired with options of combining the waste materials with nature. The basic information about the project is presented in Table 1 below.

Table 1. Zhongguancun Playground for the Children in a Rural Public Area

| Criterion | Basic information |
|-----------|-------------------|
| A | Location | Zhongguancun, Tongzi County, Guizhou province |
| B | Designer | Fu Yingbin Studio |
| C | Completed in | 2016 |
| D | Gross Area [m²] | 1200 square metres |
| E | Investor | Zhongguancun, Tongzi County, Guizhou |

2.2 Fire Culture Park in Tianfu, Chengdu, China
The fire culture park is located in Tianfu district, Chengdu city, in China, speaking more precisely, next to the Tianfu New District Fire Brigade, South Extension of Hongxing Road. The entire premises are divided into four areas. Area A is to the west of the Fire Brigade Station, whereas areas B, C, and D are to the south of the Fire Brigade Station. This theme park was meant as a landscape upgrading renovation scheme incorporating local cultural characteristics. Because of the specific theme of the park, it is rapidly gaining popularity in Chengdu, attracting high numbers of visitors. “Fire Culture Park in Tianfu New Area” of Chengdu Tianfu Fire Brigade Base was designed by Lanhai Design Company and completed in 2019. Table 2 below shows the basic information about the project.

Table 2. Fire Culture Park in Tianfu District, Chengdu, China

| Criterion | Basic information |
|-----------|-------------------|
| A | Location | Tianfu District, Chengdu, China |
| B | Designer | Lanhai Design Company |
| C | Completed in | 2019 |
| D | Gross Area [m²] | 38845.41 ㎡ |
| E | Investor | Chengdu Tianfu New District Investment Group Co., |

The purpose of creating this park was to integrate fire safety with the social awareness of the inhabitants of the city. The park greenery is so designed to fully reflect the fire safety issues and to combine relaxation options with fire safety education addressed to the visitors. Here, the public can feel the fire dangers, get involved in the firefighting procedures, learn about the history of firefighting, increase the fire safety awareness and improve fire prevention and control skills.
2.3. The Golden Rice Paddy Landscape in a suburban campus

The Golden Rice Paddy Landscape in campus project was completed in the premises of the Shenyang Architectural University campus, Shenyang City, in the north-eastern part of Liaoning Province in China. Moving the campus out of the urban area to the suburban area of Shenyang has allowed the designer to demonstrate how the agricultural landscape can be successfully incorporated into the urbanized environment and how, at the same time, such issues as food production and sustainable land use can be addressed.

Growing rice has the highest share in the agricultural production of north-eastern China and is the main source of revenue for the region. Characterised with very good quality and being a key factor of the economic growth of the region, Dongbei Rice is well-known all over China. This landscape project was designed to raise awareness of land and farming amongst college students who discontinue farming traditions and become city dwellers as shown in Table 3. On the one hand, the project aptly combines traditional farming sector and landscape architecture, and, on the other hand, it is an opportunity for the students to learn how to grow food and how, through careful design and management, agricultural landscape design can become a tool in converting the limited space around us into productive land.

Table 3. The Golden Rice Paddy Landscape in a suburban campus

| Criterion       | Basic information                                      |
|-----------------|--------------------------------------------------------|
| A Location      | Shenyang City, Liaoning Province, China                |
| B Designer      | Kongjian Yu, Xiaoye Han, Yi Han                       |
| C Completed in  | 2004                                                   |
| D Gross Area [m²] | 21ha                                                   |
| E Investor      | Shenyang Architectural University                      |

3. Comparative analysis based on the three case studies

Integrating the most contemporary social and cultural life with nature and the urban fabric has become a priority in landscape design.

3.1 Rural children’s playground in Zhongguancun Village

Figure 1. The axonometric view of the playground in Zhongguancun Village, China, published with the consent of Yingbin Fu Studio
3.1.1 A new concept of contemporary landscape design applied in rural public space. In the past, rural public space was not in the core interest of either the Chinese authorities or the designers because of the high rising trends of rural immigration to urban conglomerations. However, with the policy of rural revitalization adopted by the central government in China, there are more and more interesting projects aimed at the revival of rural public space. The first case study project of a successful conversion of the terrain around a derelict tobacco factory, skilfully combined the elevation difference to divide the terrain into 4 platform sites as shown in Figure 1. The ring road was designed to link the independent traffic system and the playground facilities together.

3.1.2 Public space in a rural area. Some of the designers have come to the conclusion that rural public space does not have to serve only the functions related to rural festivities such as the harvest festivals or other agricultural events but could be used to entertain the local children. It must be highlighted that the designer of the Zhongguancun playground, using appropriate tools of landscape architecture (Figure 2), has succeeded in creating educational and amusement options for the children. The first case study clearly shows how to revive rural public space by enhancing social interactions with the children.

3.1.3 Recyclables used in the playground facilities - inspiration for educational opportunities for the children. Sandpits, used tyres, concrete pipes, waste wood and bricks were all recycled in the construction of this playground in Zhongguancun village, as shown in Figure 3. The waste recycling and sorting room was built from red bricks (Figure 3). In the past, the villagers in China thought little of waste sorting and recycling. A number of measures were undertaken during the rural revitalization process to promote it. Locating the waste recycling and sorting rooms just beside the playground area was intended as an educational opportunity for the children to understand and realize the importance of sustainable waste disposal.

3.2 The fire culture park

3.2.1 Four theme areas of the park. There are four themes proposed by the design team and featured in this unique culture park. Taking advantage of the terrain variety of the original site, the site planning has successfully blended the “X” Zones with the main municipal streets. The park encompasses the following zones: “knowledge” – fire-fighting knowledge; „perception” – ecological technology; “entertainment” – fire-fighting campus; sports” – fitness.

This way the project has embodied a comprehensive offer of fire education and experience, fully meeting a wide range of functions to be served by the public space of the park. Figures 4 & 5 show how
the zones extend through the park from the north to the south, from the entrance plaza, through the fire history plaza and the popular science educational area. The complex purpose of the park has been fully realized through the incorporation of a complete and streamlined fire culture themes, allowing the visitors to immerse into the tour experience and to learn in an interactive way about the principles of fire safety.

Figure 4. Basic structures performing the main Fire culture park functions. Picture published with the consent of the Lanhai Design Company

Figure 5. The organisational structure of the fire-fighting zones in the park. Picture published with the consent of the Lanhai Design Company

3.2.2 Upgrading landscape and new educational conventions in terms of fire awareness and recreation. The public area of this theme park has been smartly designed to fully integrate natural landscape, i.e. the rows of trees and lawns into the theme of fire safety. The park is in overall intended to combine leisure, entertainment, emergency evacuation, fire culture exhibitions and popularisation of fire knowledge. It is not only a good place for the citizens to relax but also an innovative way of propagating fire safety through entertainment and interaction.

3.3 The third case study – Rice Paddy Landscape in a campus

3.3.1 The sustainable long-term use of land and the surrounding environment in the core interest of the Contemporary Landscape Design. The designer’s conception of the campus pursued to meet two major objectives: the creation of a high-quality environment for university students and the incorporation of traditional agricultural landscape components. The fact that the local landscape features highly productive sector of rice growing has engaged both the students and the academics into a dialogue on the options of sustainable use of local resources in view of the food production being a major economic factor in the lives of local communities. As China moves towards modernisation, landscape architects are obliged to address the issues of food production and sustainable land use in their design conceptions to symbolise and to remind the users of the historical and contemporary role of agriculture in China. In this way farming is becoming more and more accessible to the campus students and academics, who can grow plants and observe the processes of their growth, thus gaining new knowledge and opportunities to use their know-how in practice. It, furthermore, increases the awareness of the young people in respect of the value of limited resources.

3.3.2 Contemporary Landscape underlies educational and leisure options in public space. In the campus designed in the setting of the rice paddy landscape, individual pathways were envisaged as the lines dividing the whole field into small sections. The actual rice paddy plots located around the University campus (Figure 6) have created the ideal learning opportunities in the area of traditional farming, thus, bringing it closer to the people. Students can be involved in the management and designing the landscape in view of its future agricultural productivity. The students and the academics can be, furthermore,
practically involved in the farming processes. The rice paddy campus encompasses not only small open field platforms and sustainable landscape, but it is also provided with an independent irrigation system.

![Figure 6. Rice Paddy Landscape of a suburban campus. Picture published with the consent of the Turenscape design.](image)

3.3.3 Rice Paddy Landscape is gaining the status of an iconic University Campus, Golden Rice Paddy campus landscape has become an iconic university campus design. When the rice produced on the campus is harvested and distributed under the brand name “Golden Rice,” the whole campus is in the public eye scoring humorous reviews on nature and man. Due to its unique landscape design combined with the production of Golden Rice the Shenyang Architectural University has risen to the rank of an iconic design, viewed as a symbol of a suburban campus.

4. Comparative analysis of results and discussion
On the basis of the three selected case studies, the paper attempts to exemplify how contemporary landscape architecture can convert public space into places that may exert deep impact on the education and recreation opportunities of the local communities. The three selected case studies were chosen to show the examples of public space designs implemented respectively in rural, suburban and urban areas. A well-organized public space can certainly provide a number of benefits for the local communities, i.e. improved health, including longevity, physical and mental fitness and many other important social and economic advantages. In addition, public space can facilitate social interactions in the villages and in the cities, thus, positively affecting people’s lifestyles.

Table 4 shows the comparative analysis of results based on the three case studies under the research herein. The following aspects were compared: location, target group, dominating landscape design principle, learning opportunities offered by the project, types of leisure activities and ecological solutions.

| Project | Description |
|---------|-------------|
| Zhongguancun Playground for the Children in a Rural Public Area | Provides some fun activities for the children left in the village by the parents working in the cities. This way children can be better taken care of and they, furthermore, can enjoy unique educational opportunities. The four-platform design of the site naturally connects the villagers and the children with the space that was once abandoned and now is lively and vibrant. During the construction process, many waste materials were recycled to build the playground. This has created an opportunity for the villagers to learn how to save resources and recycle materials in their daily rural lives. |
| Fire Culture Park in Tianfu New district, Chengdu, China | Features a theme park that incorporates the idea of the Firefighters Games in 2019 and that demonstrates a number of cultural characteristics of the landscape upgrading and renovation scheme |

The project “Zhongguancun Playground for the Children in a Rural Public Area” is intended to provide some fun activities for the children left in the village by the parents working in the cities. This way these children can be better taken care of and they, furthermore, can enjoy unique educational opportunities. The four-platform design of the site naturally connects the villagers and the children with the space that was once abandoned and now is lively and vibrant. During the construction process, many waste materials were recycled to build the playground. This has created an opportunity for the villagers to learn how to save resources and recycle materials in their daily rural lives.

Referring to the second case study “Fire Culture Park in Tianfu New district, Chengdu, China”, this project features a theme park that incorporates the idea of the Firefighters Games in 2019 and that demonstrates a number of cultural characteristics of the landscape upgrading and renovation scheme.
intended to revive the Fire Culture and increase the fire education options. The project is located near the Fire Brigade Base in an urban area of Chengdu, China. The landscape road system with two stretched smooth crossing road lines looks like two ribs of a fan from the bird view. Such road distribution obviously supported the overall layout of the space planning in the park design. Application of the sponge city ecological technology and the four theme zones also further promote the quality of leisure and entertainment activities for the local inhabitants. So does the special fire-fighting training camp in the park. The children and their parents can enjoy the fun the park offers but also master the fire-fighting procedures through experience.

The case study of “The Golden Rice Paddy Landscape in a campus of the Shenyang Architectural University” explicitly exemplifies how traditional agriculture can be part of a landscape design in an urban and suburban environment and how cultural identity and education can be combined in a landscape typical for agricultural production. Geometric lines used in the landscape design divided the big land area into smaller fields dedicated to rice growing. The water saving irrigation system applied in the rice paddy landscape campus has involved the students into the farming management. It, furthermore, has created a wide range of learning in practice opportunities. This project is an illustrative example of a successful combination of architectural education and after school leisure both for the students and the faculty academics.

Table 4. The comparative analysis based on the three case studies

|                     | Playground Park | Fire Culture Park | Rice Paddy Campus |
|---------------------|-----------------|-------------------|-------------------|
| **Location**        | Rural area      | Urban area        | Suburban area     |
| **Target group**    | Children        | Children and adults | Students and Faculty academics |
| **Landscape**       | 4 platform sites | stretched & smooth crossing road lines | fields & Geometric lines |
| **Education**       | Waste & Facility | Firefighting & Experience | Farming & Campus |
| **Leisure**         | Fun & Education | Entertainment & Education | Public space relaxation |
| **Ecological solutions** | Waste recycling | Sponge city ecological technology | Irrigation & saving water |

* The name in the table: “Playground Park” is an abbreviation for “Zhongguancun Playground for the Children in a Rural Public Area”; “Fire Culture Park” is an abbreviation for the “Fire Culture Park in Tianfu New district, Chengdu, China”; “Rice Paddy Campus” is an abbreviation for “The Golden Rice Paddy Landscape in a suburban campus”.

The analysis based on the three case studies shows that Landscape Architecture has a number of tools to promote local culture, education and recreation. It can, furthermore, seek alternative strategies to make sites profitable.

At the stage of current research, similar postulates have been prior proposed by some researches e.g. Long (1992) was of the opinion that “Knowledge is a cognitive and social construction that results from and is constantly shaped by the experiences, encounters and discontinuities that emerge at the points of intersection between different actors’ lifeworld’s”[7].

It is evident that by developing attractive public space and by creating more leisure opportunities, we can increase the popularity of such space amongst the users and facilitate their interactions [8].

5. Conclusions
Using the examples of the three different case studies that concern the transformation of abandoned sites into attractive public spaces in rural, suburban and urban areas within the framework of a regeneration process in China, the paper focusses on the research of conversion process of abandoned sites into
vibrant public space offering recreation combined with educational and entertainment opportunities for the local communities. It can be clearly concluded that contemporary Landscape Architecture underlies the improvement of public space via various forms of advanced sustainable technologies.

This paper aims to present the results of the analysis of three different modern landscape designs implemented in the abandoned public areas to show that contemporary landscape architecture can effectively promote the integration of education and entertainment via designs fostering sustainable development through the identification and assessment of the relationship between Landscape Architecture and the surrounding environment; assessment of the diversity and attractiveness of the created public space and assessment of beneficial solutions of landscape architectural designs. Summing up, the proper application of contemporary landscape design positively affects for the sustainable development of public space, from which the communities can directly benefit as regards their educational and leisure opportunities.

Acknowledgment(s)
This paper has been elaborated within the research projects of the Ministry of Education, Science, Research entitled ‘Space arrangement (place making) for the needs of architectural education” No.10/01 / SBAD / 0294 and supervised by the research project manager, engineer architect Dominika Pazder, habilitated PhD, the Institute of Architecture and Physical Planning, the Faculty of Architecture, Poznan University of Technology. Many thanks for the encouragement from my colleagues and the financial support.

References
[1] R. Ettenger, I. H. Thompson and V. Vicenzotti, “Aesthetic creation theory and landscape architecture”, Journal of Landscape Architecture, 11:1, pp 80-91, 2016.
[2] B. Yang, N. Volkman, From traditional to contemporary: “Revelations in Chinese garden and public space design”. Urban Des Int 15, pp 208–220, 2010.
[3] B. Lipovská1, R. Štěpánková, “Assessing Observation Methods for Landscape Planning Practice in Rural Villages” Current Urban Studies. Vol.1, No.4, pp 102-109, 2013.
[4] L. Sun, “Public Space and Peasants’ Daily Life in Rural Community A case study in H village of Jiangxi Province in China” Wageningen University. Master thesis, 2009.
[5] L. Poláčková, “Means of Landscape Architecture in the Urban Public Space of Rome Paris and Prague, Acta Universitatis Agriculturae Et Silviculturae Mendelianae Brunensis Volume Lx 33 nr. 8, pp 281-298, 2012.
[6] D. Bruns, V. Ortacesme, , R. Stiles, J. Vries, R. Holden, and K. Jorgensen, “ECLAS Guidance on Landscape Architecture Education. The Tuning Project ECLAS - LE: NOTRE. Tuning Landscape Architecture Education in Europe, Report, Version 26, V58, 2010.
[7] N. Long, & A. Long Battlefields of Knowledge: The Interlocking of Theory and Practice in Social Research and Development, Routledge, London, 1992.
[8] M.Carmona, G.S Hanssen, B.Lamm, “ Public space in an age of austerity. Urban Des Int, vol. 24, pp 241–259, 2019.