

Article ID: 1671-8224(2012)01-0044-07

To cite this article: TASHIRO Kumi. Children's participatory design for sustainable development and community planning [J]. J Chongqing Univ: Eng Ed [ISSN 1671-8224], 2012, 11(1): 44-50.

Children's participatory design for sustainable development and community planning

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Received 15 November 2011; received in revised form 20 December 2011

Abstract: The urban developments have been carried out by only professionals for a long time because of efficiency and safety. However, most residents are ordinary people. Therefore, it is necessary to change the awareness of sustainable living environments, not only on the construction side but also the residents. In recent years, the number of cases of residents' participation in planning, maintaining, and repairing increased. However, sometimes youths and children, who might spend a lifetime longer than adults in a city after the developments have been done, are not included in this "Residents". Concerning youth and children's participation, CFC (child friendly city) is one of the good practices for sustainable development. It was launched by UNICEF (United Nations International Children's Emergency Fund) and UN-Habitat in the Habitat II in 1996. City governments, especially in European countries, started to view CFC as their key concept for preservation and/or sustainable development. CFC means not only being "Children" friendly but also "All people" friendly. Various effects have been reported since the Historic Cities/districts included CFC in their city planning as a common concept, especially in education, community re-development, and operation and maintenance by the community. It is expected that better city planning in preservation and sustainable development can be achieved by adding CFC concept. In this research, an ideal way of city planning involving resident participation and the possibility in the future are analyzed based on case studies. Then a strategy of sustainable development and community planning involving youth and children's participation is proposed.

Keywords: child-friendly city; participatory design; design education; urban planning; sustainability

CLC number: X24

Document code: A

1 Introduction

Both preservation and development of cities have been carried out by professionals, taking it for granted that it is important and logical when thinking about efficiency and safety. However, residents who are actually living in the city are not only professionals but ordinary people. The number of cases in which residents' participation was used for planning, maintaining, and repairing has increased in recent years. However, sometimes youths and children, who might spend a lifetime longer than adults in a city after

the city planning has been done, are not included in the "Residents". Youth and children are also stakeholders of the community. For sustainable development and better living environments, it is necessary to increase their chances of being involved in community planning and maintenance. ^[1]

2 Child friendly city

The CFC (child friendly city) is one of the UNICEF (United Nations International Children's Emergency Fund) programs launched in 1996 at Habitat II (UN Conference on Human Settlements) and has been ratified by 192 countries and regions by 2010. It is the embodiment of the Convention on the Rights of the Child at the local level which in practice means

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that children's rights are reflected in policies, laws, programmes and budgets, and it aims to guide cities and other systems of local governance in the inclusion of children's rights as a key component of their goals, policies, programmes and structures. The concept of CFC includes communities and other systems of local governance in the light of a range of experiences that have emerged under the CFC initiative. It has nine building blocks for development and the first one is children's participation. With the regional networking constructed, more than 250 cities are participating in this framework in European countries and more than 90 cities are participating in the Asia-Pacific region.

From the viewpoint of "child friendly", [2-4] various problems in our built environments have come into sight. It is highly beneficial that children participate in their community/society to solve problems by their own hands. It also means that children being able to participate in society open the possibility of participation for all people.

The excellence of CFC is its practical work in the community and participation. The CFC projects are normally related to the practical work of improving living environments, such as common space of residential area maintenance and repair of parks and playgrounds. And children are included in the research and planning so work can be executed by their hands.

In design education, it is important for children to have good practices but some of them are one-time fun

hands who work on only paper, with experiences only in the classroom, with less continuity or themes away from the living area. In addition, education is normally like architects giving knowledge and skills to children, and children just receiving them passively. If it is changed to have actual practice in the community, it will become more effective. Therefore, design education will carry the concepts of CFC and the program might be able to improve through combining professional knowledge, practice and continuity in the community.

CFC also has good view points for sustainable development, because CFC means not only "children" friendly but also "all people" friendly.

3 Youth and children's participation

CFC means not only being friendly to youths and children but to all people. Thus, it is thought that children's participation in the sustainable community developments is necessary not only from the aspect of CFC, but for all the people. Traditionally, children have been involved in the events in the local areas in many areas. However, this habit and communications within the vicinity are changing, because family and lifestyles have changed in a declining population and ageing society. Hart [5] explained children's participation in the community separately via eight levels (Table 1).

Table 1 Ladder of children's participation [5]

Division	Level	Degree	Explanation
Non-participation	1	Manipulation	Adults take advantage of using children, pretending causes are supported and inspired by children
	2	Decoration	Even though adults do not pretend that the cause is inspired by children, children are used to help or bolster a cause in a relatively indirect way
	3	Tokenism	It looks that children are given a chance to give their voice, but in fact there is little or no choice about what they do
Participation	4	Assigned but informed	Children are assigned a specific role and informed about how and why they are being involved
	5	Consulted and informed	Children give advice on projects/programs designed and run by adults. Children are informed about how their input will be used to the outcomes decide by adults
	6	Adult-initiated, shared decisions with children	The projects/programs are initiated by adults, but the decision-making is shared with children
	7	Child-initiated and directed	Children initiate and direct a project/program. Adults are involved for a supportive role
	8	Child-initiated, shared decisions with adults	The projects/programs are initiated by children, and decision-making process is shared between children and adults. Adults empower children from their knowledge and experiences.

With regard to the participation level, level 1 is the lowest and level 8 is the highest. In addition, Roger Hart said levels 1 to 3 are not actual participation. When Table 1 is applied to city planning, for instance, the case of only staying in a children's park in the community is level 1. It is level 3 if participating in the cleanup activity of that park planned by adults. If children get an opportunity to give their opinion on the cleanup activity of the park requested by adults, this might be level 4. If the method and the member of the cleanup activity are proposed and executed by children, it is level 6. It will be level 8 if the needs of the park are examined, a repair plan is made by children, and they execute it themselves with adults.

4 Case study

It is verified in the cases ^[6] that children can take on important roles for activation and sustainable development of the community.

4.1 Excavation and restoration of the community

The first case is about excavation and restoration of the community history with children's participation. That area had prospered as a pottery town for 400 years. However, in the recent 20 years, the area had been developed into a residential area, with pottery as the occupation disappearing. Most of the kilns had been demolished and some of them were moved outside the city. Only one remained and the potter decided that he would keep it until the last day of his life, even though it can not be used anymore. When the kiln was discovered by chance, almost 15 years had passed since the kiln had stopped making pottery (Fig. 1). A group of people who were passing by chance found the kiln while searching for some attractive places in the area as an after school program for children. They were enthusiastic about the story and strongly recommended the potter to display his kiln for children. In line with their strong recommendations, the potter decided to open his kiln for children during summer vacations.

A lot of work was necessary to let children inside the potter's workspace, because it had not been used for almost 15 years. Hundreds of young people from that area joined in a voluntary plan to help with the cleaning and preparation for that.

With their great help, the preparation was completed by the summer vacation. When it opened,

many children came to visit it during the whole summer. There were many potteries that had been used in old times exhibited inside the old workspace. It was something out of the ordinary and very interesting for children, while nostalgic for their parents and grandparents' generation.



Fig. 1 Kiln before repaired

Once people had visited it, they would come again and bring their other friends. Many children and visitors going there encouraged the elderly to gather there and communicate with others gradually. At first, the opening period was six weeks only; however, because its reputation was widespread, it was decided to open continuously as long as the potter was able to, then the community has tried to keep participatory restorations for several years (Figs. 2 and 3).

More than ten years after, many children still were coming to visit it until the great earthquake disintegrates it (Fig. 4). However, a few months after the quake, the community re-started to make the repair plan.



Fig. 2 Refurbishing operation by children



Fig. 3 After repaired



Fig. 4 After the earthquake

This is a good practice of activation of regional history being reviewed through a children's activity. In addition, the case had an unexpected effect. Actually, the kiln was located exactly in the middle of a new planned road which had been in the planning for 25 years and the construction had been finished just a few meters away from the kiln. Finally, the road plan was changed and the kiln is still enjoyed by the community.

4.2 Redevelopment

The second case is about a community which started to collapse due to a redevelopment re-tied by youth and community garden. The location is very close to the big railway station and the whole area was decided to be redeveloped (Fig. 5).

Many residents moved either temporarily or forever and neighbourhood communications were interrupted inversely with the construction progress day by day. A high school principal lived there and he

wanted to do something good for the community with his students. He talked with the person in charge of the city and obtained permission to borrow a small space on the site for a community activity for two years until the scheduled road construction started (Fig. 6).

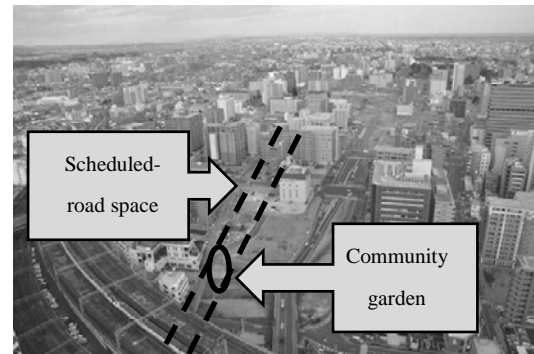


Fig. 5 The community garden and new road route



Fig. 6 The community garden before

He and his students decided to carry some soil to the place and planted flowers and vegetables in cooperation with the public office, NPO (non-profit organization), and residents. The reason why they chose farming in the middle of an urban area is because of an idea that farming can involve infants to the elderly, both men and women, and it does not matter whether people have rich experience in agriculture or not. It does not matter whether people have any skills and knowledges or not. They just can work on it. One day, a frame was built on the site and soil was piled up there. Two weeks later, small green buds popped up. Some students planted little flowers surrounding the frame, because they thought that it was infertile

because of the colour of the soil until there were more green growth (Fig.7).



Fig. 7 Students are taking care of plants

In a few months, grass was growing and it seemed like a complete garden (Fig. 8). The residents who watched suspiciously at first came to help one by one when students were watering.

At first, most of the students were too shy to talk to the residents, but they started to talk gradually. Before that, they had no connection with them in their daily life, but they were able to find common subjects to talk about through farming. Usually, students are taught skills from adults, but occasionally students teach the adults. In the second year, the students taught younger children. On a summer evening and a sunny day in autumn, they enjoyed a barbecue party altogether using vegetables from the garden. This community garden became a core to connect the community that seemed to have been interrupted.



Fig. 8 The community garden six months later

Many people had moved out since the redevelopment started. Residents who were still living there said that they had almost lost their confidence in and identity of the community, but they realized what community was through the work with the students at the community garden. They would ask their friends who had already moved to a different location to return the place after construction completed to build their community up again. According to the promise, the place had been restored to the city two years later and construction started right after that. The garden has become a road now, but communication among residents is still continuing.

4.3 Activation of the community

The third case is also using a community garden on a scheduled road site which was activated by the community. This area is near the city center, but there had been unease in the aging and decreasing population for several years. The site had been vacant for a new road for a long time, but the community had been thinking about a possible usage, because of crime prevention. As a result of many discussions over the years, it was decided to make a community garden there (Fig. 9). Some work for the garden, for example, pouring water every day and keeping the tools tidy, was divided by using existing groups of original residents' organizations. There were enough members in each group, so that regularly, one person was officially called up for work only once a month or two. A person who likes gardening can participate more. Many residents like the community garden very much and many people pass by on their walks. This loose bundling is one of the reasons why the community garden is being accepted by the residents.

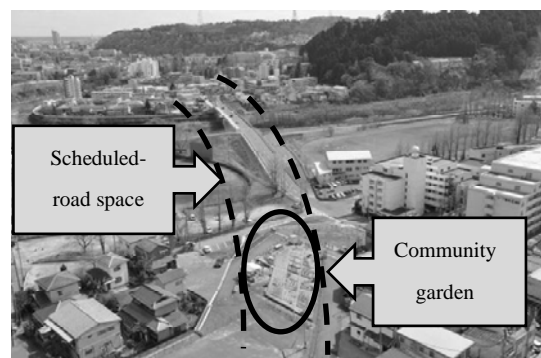


Fig. 9 The community garden and new road route

Another reason for the management of the garden being a success is that it provided a chance to gather residents in the field regularly. They have promises with some farmer groups and farmers coming to give agricultural guidance. There is a fresh harvest market every week. However, each group comes to the garden once or twice a month. This is also good for farmers. It does not make them too busy and they can enjoy the occasion. There are some advantages for both of them. For farmers, they can hear the voice of consumers directly and collect their opinions to reflect their new planting; and for the residents, they can get various fresh vegetables and mountain herbs and exchange ideas for cooking (Fig. 10).



Fig. 10 Works on the community garden

On the other hand, cultural exchange between the generations is possible in the garden. Many children participate in the events, such as sowing seeds, planting, harvest festivals, and summer festival, working with adults.

Some adults try to keep working or stay at the garden according to the time when children are walking to and from school, thereby combining with children's safety management in the community. The children and adults in the same community can meet at their garden, greeting each other every day, gradually start talking to each other, and sometimes children help with the work as their play. Now they are planning to extend space for the playground where children can play next to the garden. When a lot of young power is needed, such as cultivating the fields before sowing or mowing, they sometimes ask for help from outside the community. It sometimes allows for alternative collaboration across the generations. There was a case that after the gardening works, a university student helped an elderly lady who was living alone with her shopping for daily

necessities. This is one aspect of "child friendly" becoming "elderly friendly" and "human friendly". So far, the garden plays as a very good role in connecting people in the community. Its appearance is very green even though it is at the center of the city (Fig. 11). However, a wide road will be constructed in this place in the future. The community has an agreement with the city. The owner and manager of the site can use the site as a community garden until the construction is started. The relationship between the garden and children might change the appearance of this community in the future.



Fig. 11 The garden three months later

4.4 Proposal of new usage of a public space

The last case is a small park near the commercial area badly maintained by the administration but was reformed by neighbors and turned into a place in which young people and young families are gathering. The park is in the center of a commercial area, but a few streets go off from the main street and the management of the administration was bad, even maintenance being not good. It was feared by students and school children. They avoided walking on the street in front of the park to and from school and kept away from it not only after dark but during the daytime (Fig. 12).

A person who worked in a shop near the park saw this every day and worried about the situation. He told his boss that he wanted to change the situation and if the park and street had a good atmosphere, it would also be good for business. Finally the shop owner decided to support the reform and maintenance of the park and proposed to the city administrative body his suggestion. The design and reform were done by the people who work at the shop and a new

park was contributed to the city. After that, it can be seen that people who are working at the nearby offices come to the park to have a break and mothers with their baby or toddler come to take a rest while shopping on holidays.

Moreover, a flea market of organic food and hand-made goods opens once in a month and many people gather there (Fig. 13). It succeeded in creating safety and relief in daily life and community activation using the prospective of “child friendly” in city planning.



Fig. 12 The small park before reformed



Fig. 13 The small park after reformed

5 Conclusions

From those cases, a further possibility can be

found to the sustainable developments and maintenances of urban planning by making the chances of participation into the community design for youths and children.

Good attachments to the area might be formed by participatory design and that process lead to the re-activation of the community.

“Child friendly” does not only require efficiency. It has high possibility of solving more conflicts in the field of city planning. CFC is not meant to be one-way from adults to youths and children. Adults, youths and children should advance the preparation for participation and become accustomed to it. If we accept children’s participation in society and children also accept their real participation, it will be expected that better city planning in preservation and sustainable community development can be achieved through the aspects of CFC. It is a genuine value of CFC. It is expected that the concepts of CFC will be known and children’s participation will be promoted in the process of sustainable developments.

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Edited by XUE Jing-yuan