

# **Integrative research on redeveloping real estate, urban sustainability, Shanghai, the case study of Shanghai World Expo 2010**

## **Introduction:**

On December, 2002, Shanghai has won its bid to host the International World's Fair and Exposition in 2010. The objectives are very ambitious: first of all the Expo 2010 is planned to be four times as large as the World Exposition 2005 in Aichi, Japan. Furthermore, the Expo 2010 represents three premiers: It is the first time for an Expo to be held in a developing country in its 150-year history; it is the first time that an Expo focuses on the theme of city development—"better city, better life", sub-themes include "Urban Cultural Diversity", "Remodeling of Urban Communities" and "Interaction between Urban and Rural Areas"; It is the first time that the urban planner will have such an important role in an Expo;

Being inspired by Lewis Mumford, "The city is a special structure which, fine and compact, has been designed to preserve the fruits of human civilization", it has been titled "better city, better life ". As announced on the official website of Expo 2010 Shanghai, "Expo 2010 Shanghai China will be a great event to explore the full potential of urban life in the 21st century and a significant period in urban evolution. The prospect of future urban life, a subject of global interest, concerns all nations, developed or less developed, and their people." For the duration of 184 days participants of the Expo 2010 will display and communicate about the urban civilization and development. The final aim is to learn about how to create an eco-friendly society and maintain the sustainable development of human beings.

The proposal for the Expo 2010 from Shanghai came not out of nothing. It is indeed strictly related with the local context. During the last two decades, Shanghai has been experiencing an enormous urban transformation. The distance of being a global city and the present situation of shortage of space, fragmentation of industrial land use, inefficient transportation services, difficulties of space expansions and dilapidated housing led to the important redeveloping task. Unfortunately, driven by the profit-seeking enterprises, the redevelopment benefits have been unevenly redistributed. The urban redevelopment of Shanghai now mainly serves urban growth and profit making. Consequently it brings socio-spatial polarization and exclusion comparable to western post-fordist cities. Resistance arises from residential relocation and clearance of central slums. Fortunately, the Expo2010 project could have a major impact on the present situation and approach a new point toward sustainable urban development as a whole.

As Hall pointed out, the decision of big events normally are a result of a political process. It is a process which can combine in a short time all necessary resources and build an efficient

organizational structure so as to ensure the successful accomplishment of the task. The ordinary administrable process has been specifically renovated to be capable to fulfill the aim. In this sense, the renovation during the process could improve the urban governance. Consequently, it will improve the city and life quality. For this reason, it is quite interesting to analyze the influences among them. How has the pilot project of the Expo 2010 influenced the urban governance, city and life quality? Consequently, will the pilot project- Expo 2010 promote the sustainability of the city? Which are the positive and negative impacts of this project? Moreover, which issues would have needed to be paid more attention to?

In respect to the theme “better city, better life”, I will analyze the Expo 2010 project looking at it from three points of view: the city, the life, the urban governance”.

## **Case study of Expo 2010 project, Shanghai**

### ***The city: Background of the Expo 2010 Shanghai project***

Shanghai is the largest city in China with a metropolitan population of over 13 million. Built along the Huangpu River in the lower Yangtze delta with a total land area of 6430km<sup>2</sup>, the metropolitan area consists of 14 urban districts in the city (2057 km<sup>2</sup>) and six suburban counties.

#### *Urban spatial history:*

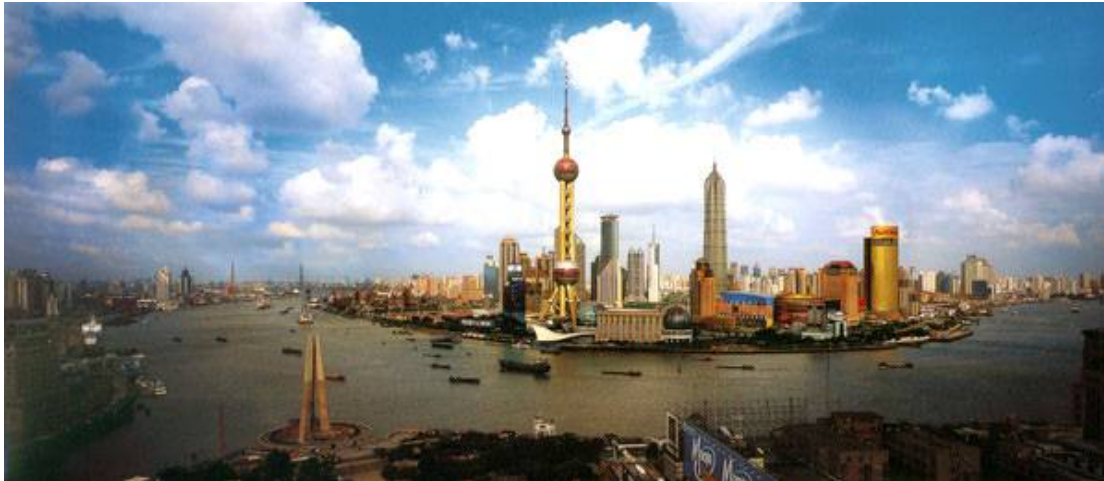
In its pre-1949 days, Shanghai had highly developed urban amenities; electricity networks, sewerage lines, and tram-ways were equal to most European cities. After 1949, however, little has been done for the maintenance and improvement of urban infrastructure. The anti-urban bias also resulted in limited investment in housing, transport, utilities, and other urban amenities. From 1950s-1990s, the city experienced little construction due to the policies of the communist government. The government seems was suspicious of its used western ways. By the 1970s and 1980s, the central city’s infrastructure was near collapse.

The central city of shanghai has been characterized by an extremely high density of housing and industry, there were over 4000 industrial enterprises. Moreover, there is a lack of a proper planning framework because of some periods in the past where the area has been colonized by foreign powers. Foreign concession and Chinese districts had separated jurisdictions and administrations. Consequently, it led to a situation where factories and houses were located rather randomly and often even encircled each other.

Until the Chinese economic reforms in the early 1980s, the communist government began to consider taking the city into the mainstream reforms. In the 1990s, the national government decided to raise the status of Shanghai to that of a global city, making it a centre of finance, commerce, trade and shipping. The fact of wanting to become a global city but having to face at the same time many problems like shortage of space, fragmentation of industrial land, inefficient transportation services, difficulties of space expansions and dilapidated housing led

to the important redeveloping task. The redeveloping task includes the provision of housing and industrial relocation, the maintenance and upgrading of infrastructure, the relocation of original residents to satellite and suburban towns to make space for new freeways, high-rise buildings, urban services and employment opportunities for the central city. Since then Shanghai has undergone a profound restructuring of its infrastructure and, more importantly, its physical form and appearance.

The master plan during the period 1999-2020 is based on a multi-centered urban structure which will lead to wholesale re-urbanization of the city. The city growth and urban form was restructured by the redevelopment of Pudong new economic zone which used to be the agricultural and heavy industrial area. The Huangpu River which was full of factories, shipyards and old warehouses, is now being gradually replaced by public open spaces and other activities. It turns out to be the symbolic line of the city image. Moreover, the need for transformation of the waterfront is also the key driver of the choice to use it as location site of the vast world EXPO 2010.

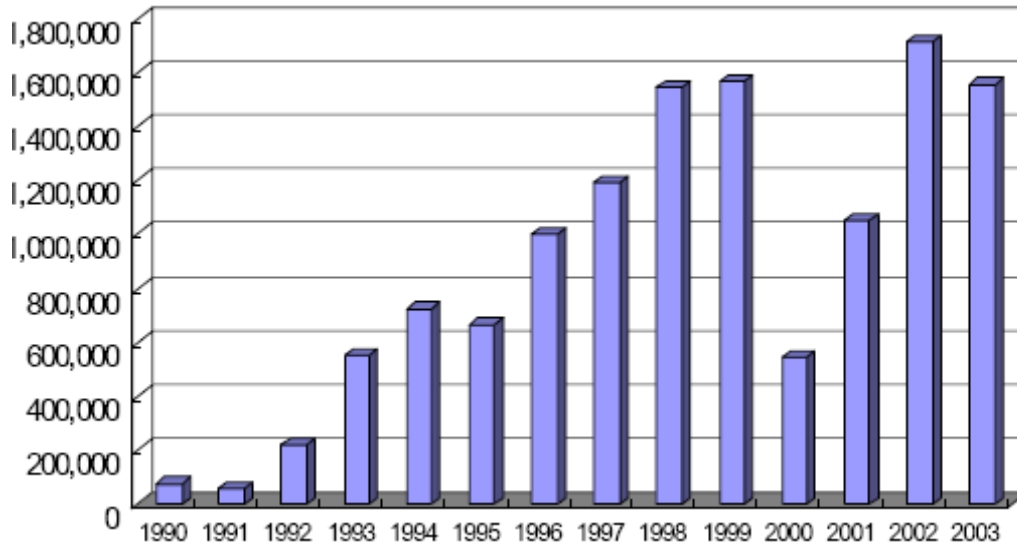


**Figure 1. View of Pudong New Area. Source: Expo official website**

**<http://www.expo2010china.com/expo/expoenglish/oe/sacf/index.html>**

The new CBD of Pudong New Area was developed in less than two decades. Numerous high-rise office towers and luxury residences were constructed quickly. A series of master plans for different areas of the city, covering over 800 square kilometers, were designed. About 20 million square meters of buildings have been expected to be built every year with new housing, office and other activities. In this context new problems arise, such as the displacement of central house holders to city's periphery.

**Investment in urban infrastructure, 1990-2003(unit: 10,000 yuan)**



**Table 1: Investment in urban infrastructure in Pudong, 1990-2003. Source: SPSY**

The Pudong new area is successfully developed by attracting foreign investment. However, these also bring challenges which require more complex planning process and policy interventions. Although the population in Pudong grew from 1.3 million in 1990 to 1.7 million in 2003, the density of population in Pudong is still not comparable to the Puxi new area, the old center on the west side of the Huangpu River. Due to the inadequate transport infrastructure and traditional perceptions, most Shanghai people prefer to live in Puxi, instead of living in Pudong which represented a rural region far away from downtown Shanghai. Moreover, the population within Pudong is also unequally distributed.

*The project theme of Expo 2010: "The harmonious city"*

Under the Expo 2010 guideline of the "better city, better life", the concept of "city of harmony" on urban planning has been proposed to promote the sustainable development of the city. Based on this main concept, the harmony between human and nature, the harmony between human and society, the harmony between history and future have been set up as the main rules of the Expo 2010 project. Furthermore, the motto of the organizing committee is "keeping in mind the next 60 years' development while preparing for the six months' exposition."

Six principles of planning have been set up:

1. Design of an overall plan to determine the needed resources for hosting the Expo 2010 and strategic plan of the after use issues.
2. Construction of a multifunctional modern transport system to ensure the connection between the city and Expo site.
3. Integration of the urban landscape and highlight of the site of the Expo as fantastic public space of the city.
4. Constitution of a reasonable strategic plan not only for the Expo 2010 project, but also for the benefit of the future urban development of Shanghai on land use, architecture,

environment and infrastructure.

5. Active construction of symbolic architecture and space structures in order to preserve the history of the Expo 2010 for Shanghai.
6. Preservation of the historical culture.

*The project site along the waterfront:*



**Figure 2. Map of Master plan of Expo 2010.**

**Source:**<http://www.expo2010china.com/expo/shexpo/zlzx/xzzx/userobject1ai10674.html>

The selected site of Expo 2010 locates along the Huangpu River which is the mother river of Shanghai. This river serves as a water source for the 16 million residents in the area. The site is also the birthplace of China's original industrialization. Shanghai has assigned 6.4 km<sup>2</sup> between Nanpu Bridge and the Lupu Bridge for the Expo 2010. Moreover, it is placed near the Pudong new area, the Bund area and the city center. Around this area, the multinational styles of architecture also reflect the history of Shanghai known as a financial center of the Far East in 1930s. In particular, most of the unique buildings of the exposition, park, and infrastructures within the Expo site will be maintained after the event. According to the after-use plan, the space will be used for public events and cultural activities.



**Figure 3. View of Expo 2010 project. Source: Expo official website**

*The inner integrity and outer integrity:*

The selected site of the Expo 2010 has culturally been witness of the historical evolution of the city: the reforms and liberalization. And it will witness the new era in the history of the city. Furthermore, the selected site will compensate the ongoing urban structure. Since all traditional centers of Shanghai are based on high density of commercial and financial activities, conversely with the renovation and reviving of the bank side, the new centre of cultural and exhibited area will complement the urban functions. Specifically, by the time of the Expo 2010, six bridges and six tunnels will be built to cross the river dividing the city. Undoubtedly, the improvement of the transport system also promotes the integrity between Puxi and Pudong. The subway is also being expanded from the current 3 lines totaling 65 kilometers to 15 lines totaling 400 kilometers, raising daily capacity from a daily 800,000 passengers to 5 million. The city's transportation system will be improved to host the estimated 70 million visitors of Expo 2010. A multilayer traffic system will be developed from Puxi to Pudong. By 2010, three additional runways at Pudong international airport have been promised to be completed. At the same time, the two airports of Shanghai are going to be renovated to be used by 80 million people a year.

More importantly, the Expo 2010 is expected to trigger a new round of development for Shanghai, even for the rest of China. From the view of the region, about US\$ 5 billion will be injected to expand the inner city road system. It will be upgraded with the aim of reaching up to 700km of length. Moreover, the mass transit system of rail line is about to be extended to over 300km. The transport infrastructure has been and will be improved significantly to satisfy the demand of the event and even the future development of the city. With the development of the transportation system, it will also stimulate the growth of the whole Yangtze River Delta; which covers Shanghai and 16 other cities of the adjacent Province. This area covers 1% of the geographical area of the nation, while the population of this area almost accounts for 6% of China's population. To hold the Expo 2010, the whole Yangtze River Delta will be turned

into the second biggest metropolis circle in the whole Asian. Needless to say, the Expo will facilitate the further development of this area to be a global financial center.

Certainly, with consideration of the urban background of this project, it is needless to say that it would be a great chance to promote the socio-cultural cohesion in the urban context. By the virtue of the Expo 2010, the urban structure has been enhanced sustainably.

**The life:**

*The quality of urban life: living space*

Within the Pudong new area, although the population has been increasing after the redevelopment, the uneven population distribution remains a problem. Before the redevelopment of this area, most of the population was concentrated along the bank of the Huangpu River, but nowadays, it is mainly distributed in the Lujiazui Finance and trade zone (Figure 4) which are near the Expo 2010 site. According to the China Population Net, due to uneven distributed public service facilities, the density of population in Lujiazui Finance and Trade zone was 10,687 persons per square kilometer by the end of 2004. This is much higher than the population densities of the other three subareas of the Pudong new area: Waigaoqiao ( Figure 4; 1,661 persons per Km<sup>2</sup>), Jinqiao ( Figure 4; 1,433 persons per Km<sup>2</sup>) and Zhangjiang ( Figure 4; 1,299 persons per per Km<sup>2</sup>). These data show that most people are located around the central area of the Pudong new area. Besides, the unevenly distributed population also reveals the uneven development of the Pudong new area. Consequently this will lead to traffic jam and difficulties for residence. Urban relocation has definitely to be considered.

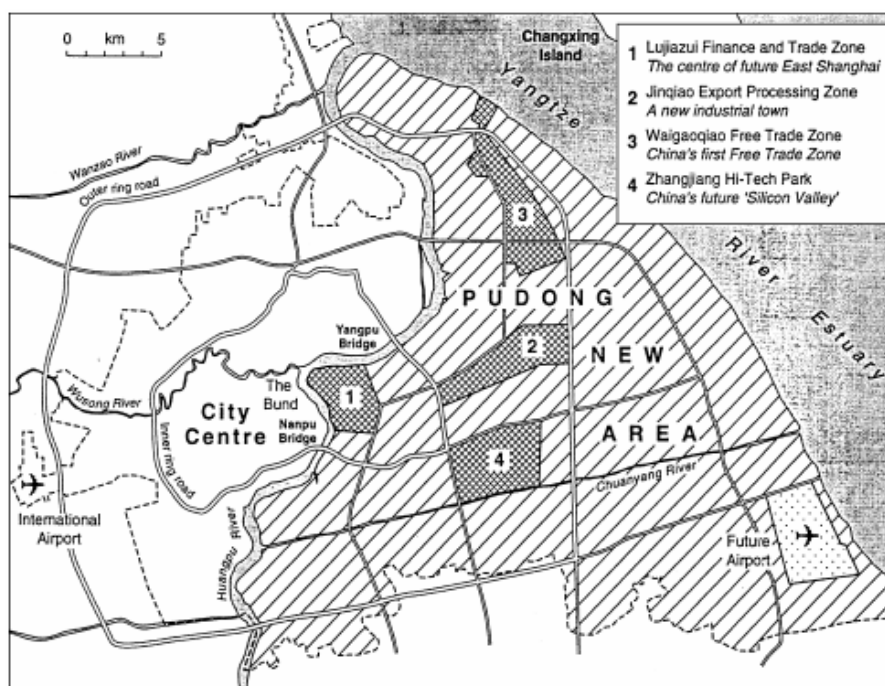


Figure 4. Map of Pudong New Area. Source: Massey et al., 1997(WeiPing Wu , city file)

According to a statistic of the State Statistical Bureau, there are 80,000 people living within the Expo 2010 site, occupying a total housing area of 5.28 Km<sup>2</sup>. Nearly 60% of them live under undesirable conditions and some of the houses are located in dangerous areas. By the virtue of Expo 2010, the new policy of “sunshine displacement” has been implemented which is concerned about the exact profit of the resident. The original households on the site would be relocated into a new residential area named “Expo Gardens”. It was equipped with the complete public services, infrastructure, convenient traffic facilities, and the ratio on green land/building land is 35%. With this the living condition of the original residents has been greatly increased. Above all, the housing space per person will exceed 25 m<sup>2</sup>.

In particular, from the aspect of the living environment, after the implementation of the first “Three-year Action Plan”, the second “Three-year Action plan” has been launched. It will cover the following issues: cleaning up of the polluted waters and the atmosphere, solid waste treat, green belt construction, preservation of the agricultural eco-system and creating of eco-industrial enterprises. According to the Expo master plan, the polluted and anti- esthetical 272 manufacturing plants, which are undesirably located on the Expo site, will be moved to new industrial area. Consequently, the new opening up space would be used for new development. Green corridors, waterfront parks of the size of 60 hectares are proposed to be constructed.



Daytime Expo view (artist's impression)



Nighttime at the Expo (artist's impression)

**Figure 4. Map of sight view of Expo 2010.**

Source: <http://www.antonraubenweiss.com/expo/week21.html>



**Figure 5 View of Expo Garden. Source: Expo official website**

Furthermore, the planning of the Expo Gardens has not only aimed the relocation of the



original residents of the Expo area but also meant to experiment for relieving the high density of population in the central area: How to successfully attract people from the central area? Inspired by the international successful experience, the multidimensional cultural and high quality life inside the new resident area might attract the central population. In respect of that, at the beginning of the planning of the Expo Garden the main aim was to build a whole new city life mold to experiment an appropriate residential project mold for the future relocation.

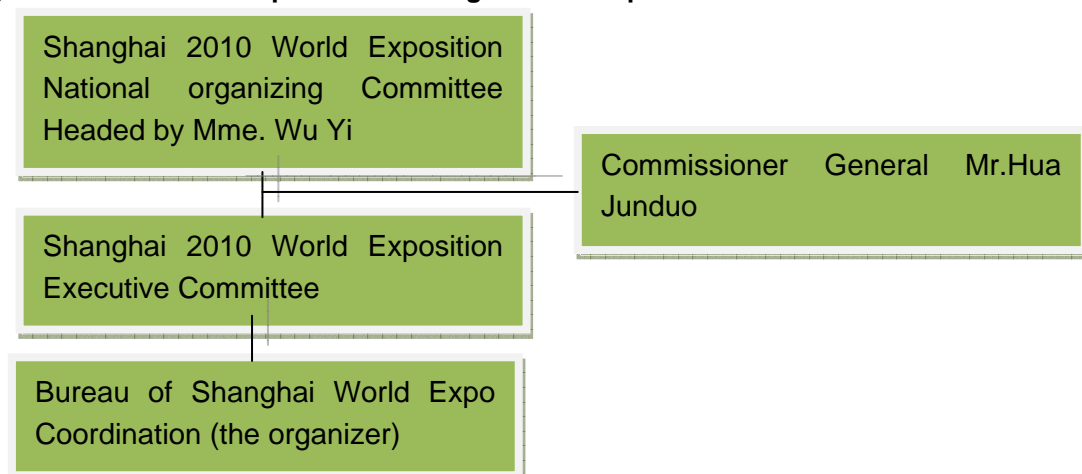
In conclusion it can be said that the relocation of the residents has been successful because the high quality new residential project “Expo garden” satisfies the life quality need of the residents. And it is a first step towards Rural-urban Interaction. However, a complete and related policy is suggested to be constituted in order to meet the need of further urban relocation. Which aspects need to be paid more attention to? What do we learned from the successful project?

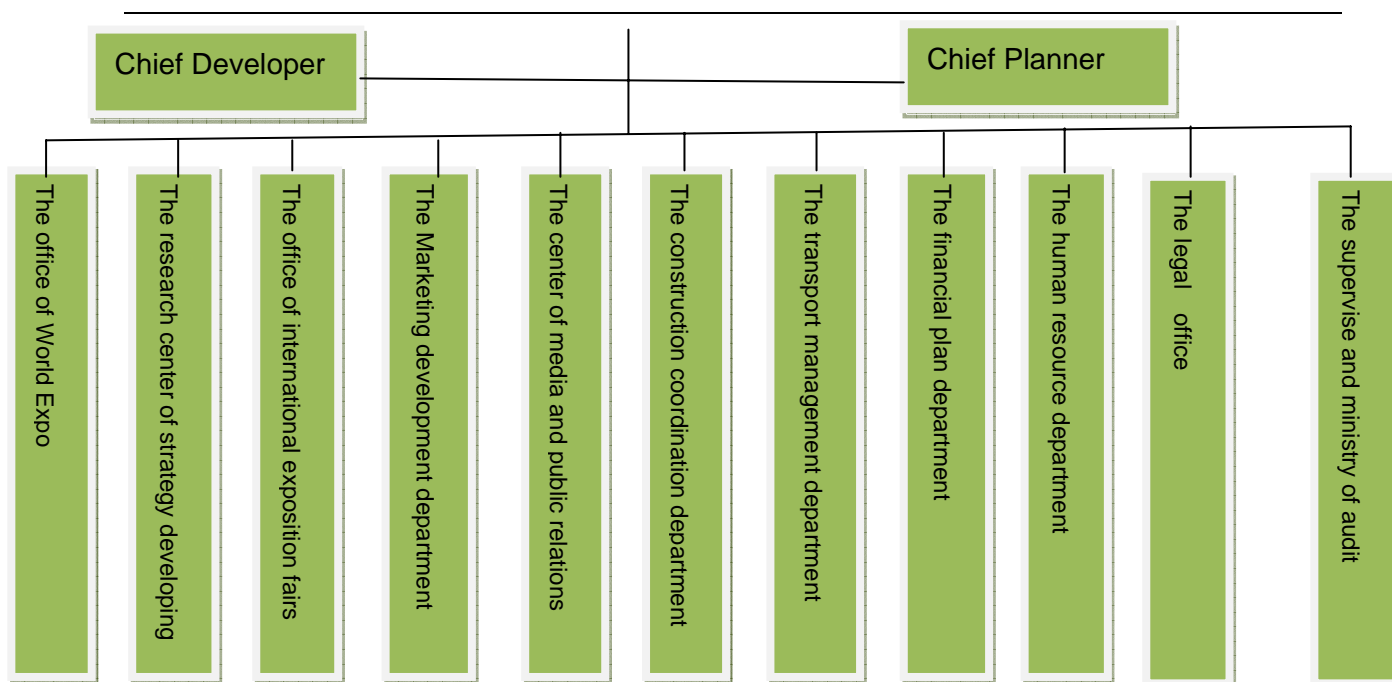
### **The urban governance: The constitution of the new actor**

The World Expo will open from 1 May to 31 October 2010. Over 20,000 activities are being staged for this period. The total investment of the Expo 2010 project is estimated to be around US\$30 billion, 43% of which will come from government sources, 36% from companies and 21% from banks. The six-month-long Expo is expected to bring in US\$9 billion for Shanghai, according to China’s press coverage.

The leading role of the organizational structure has the Shanghai World Expo organizing Committee which consists of delegates of the central government and related 24 committees of the Shanghai government. Whereas the Shanghai World Expo Executive Committee is responsible for the specific works instructed by organizing Committee. However, the management and implementation of the Expo 2010 is a highly systematic and sequential process and it demands a high level of coordination and efficiency of different working units. Due to this reason, a new functional actor has been created, The Bureau of Shanghai World Expo coordination, which is responsible for the daily work of the Executive Committee and to help the implementation of the policies of the national and Shanghai 2010 world Expo Organizing committee. In doing so, it will ensure the integration and connection between this subjects so as to improve the efficiency of implementation.

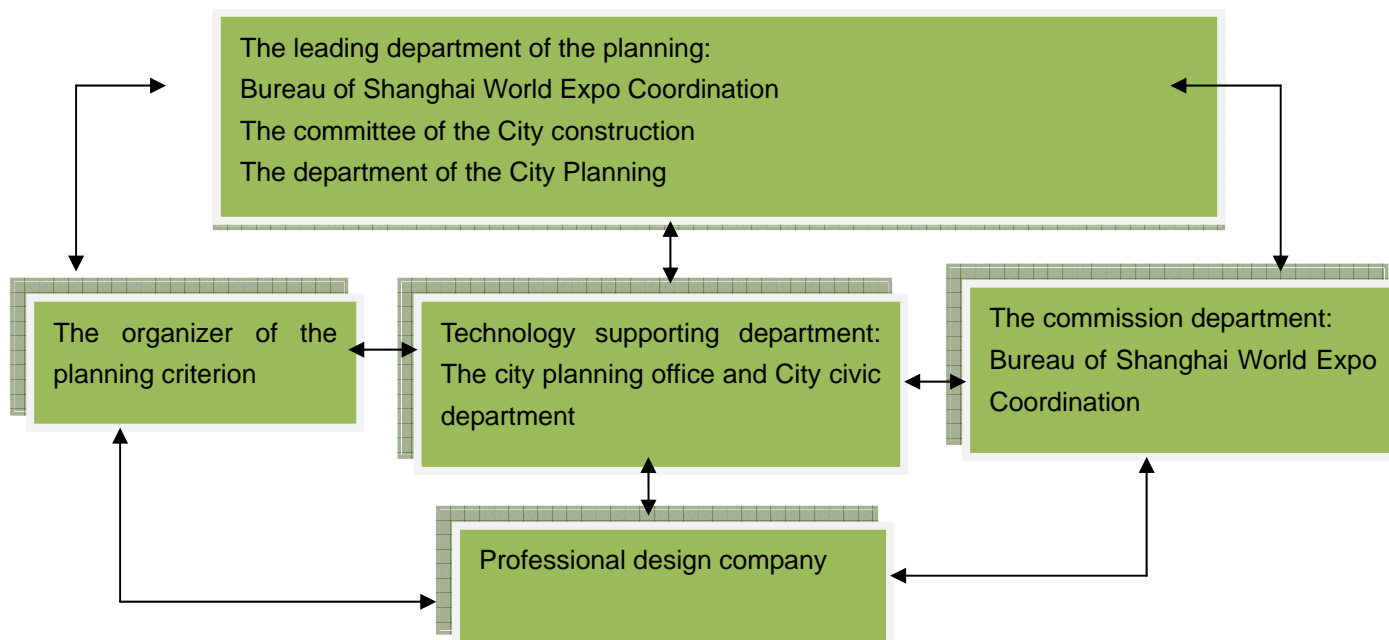
#### **The organizational structure picture of Shanghai 2010 Expo coordination**





The sources: the report of the registration of Shanghai Expo 2010.

The working structure of the planning team



The sources: the report of the registration of Shanghai Expo 2010.

With the new organizational structure, more actors are getting involved inside the decision making process. Thanks to the Bureau of Shanghai World Expo Coordination, the integrations of different working units has been ensured, the long term of feedback, modification and improvement from developing phase, construction phase to after use phase will be fulfilled. The event absolutely stimulates the constitution of an operational mechanism with higher efficiency if compared with the original one.

### ***The involvement of international intellectuals:***

On May, 2004, the international competition of the planning proposal started. To assure the advanced technology supporting, many top international design companies and professionals were invited. It is important to mention that the organizer of the competition is an independent international bidding company. The Bureau of Shanghai World Expo Coordination committed the power to the professional company. Each part of the process has strictly followed the international public bidding standard. This action reveals the willingness of corporation of the government with the professionals. To some extent, it also avoids the unitary governmental planning mold. The process of the competition is meant to be transparent and fruitful. At the end of the competition, a team with members from 10 different perception of Expo culture has been formed. This competition will enrich the concept of the Expo by the international intellectual communication. During the collection on global scale of advanced concepts to develop the Expo project, the Bureau of Shanghai World Expo Coordination has been systematically analyzing and selecting the final plan. At the end, it will be implemented by the local professionals. Particular, an essay forum has been set up for officials who visited the Aichi Expo to spur fruitful discussion about the organization of the 2010 Expo.

Nevertheless, from the structure, the lack of involvement of the citizens in formulating the future of the urban area comes out. According to the motto of “keeping in mind the next 60 years’ development while preparing for the six months’ exposition.” the organization structure seems effective for the six month exposition, whereas the user driven innovation should also be consider for the next 60 years. The city image and status certainly will be improved by the event. However, this event could also sharpen the social segregation. The relocation of residence, the rising prices of the nearby residences could bring about negative impact on low-incoming families. How to extend the indubitable positive effects of the event on the Sustainable socio-economic development while avoiding the negative impacts? The confrontation of this issue is also suggested to be considered during the policy making process.

### **Conclusion:**

According to all the analyses I illustrated above, based on the urban context of Shanghai, the Expo 2010 project is absolutely needed and useful. The urban space has been integrated toward the direction of sustainable development. Urban policy also gets improved by the integration of new functional renovation. Effective partnerships and related policies have been constituted by the occasion of the event.

Nevertheless, Civic integration plays an important role in generating civic participation and social inclusion, appropriate physical and social spaces. Moreover it could produce ideas which reinforce sustainability of social networks and enable citizens to actively participate at the urban governance. However, in this case, integration seems limited between the professionals and the politicians. The city users somehow do not get involved inside the policy making process. It seems necessary to emphasize that the most important thing of the Expo

2010 is to improve the city environment and to create better life for the citizens. In this sense, a user-driven research and analyses is needed.

From the view of the urban economy, though foreign investment does enhance the city image and the competitiveness, the promotion of the local economic growth is the key theme in urban growth. The Expo project should also try to involve and promote the local and national enterprises in a reasonable way.

The waterfront urban transformation and large constructions of urban parks showed the increasing focus on the integration on urban landscape. Needless to say, waterfront areas are precious lands for an international city. The return of the waterfront area to the public use will significantly improve the quality of life. However, little has been done for the periphery. Massive relocation of industry and residential real estate projects cannot be supplied with convenient public services. It is suggested to take advantage of the successful residential project, such as the Expo garden. In doing so, it could help to develop a complete and effective mold to improve the life quality as a whole.

In short, we should consider how to extend the positive effects of the Expo 2010 project while avoiding the negative impacts of it.

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