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Spatial Transformation in Shanghai: the strategy, institutional arrangement and planning procedures - the case of EXPO 2010

Ziye Na, Mingwei Liu

**Keywords:** Spatial Transformation, Shanghai, EXPO 2010, Strategy, Institutional Arrangement, Planning Procedures

**JEL codes:** R58 - Regional Development Planning and Policy

**Abstract:** Within the background of post-industrialization and globalization, Shanghai is one of the initial Chinese cities to make their reflections. Also it is the one-and-only city of the developing countries which ever hosted EXPO, thus it was making the great endeavor in order to make itself as a paradigm. According to this case, we would witness the “big event” was used as a trigger of urban regeneration and development, the vision of “pre-post” strategy has become the foundation of the financial support, the “urban development corporation” - a public and quasi-public partnership was set up to implement the strategies, and the interactions between the administration and the other actors such as experts made the planning procedure more effective.

1. **Instruction**

1.1 The research objective

As the economic center of China, Shanghai has achieved 14.09% of GDP increasing in 2010, and the GDP per capital was twice compared with the average of mainland China (it reached $11,238 according to the Shanghai Statistical Yearbook 2011, while the average of mainland China was $5,414 according to IMF, 2011). Meanwhile, its urbanization rate has been 89% in 2010, the whole city is going through severe economic and spatial transformation and requalification. On one hand, Shanghai is one of the initial Chinese cities that follow the trend of the post-industrialization and globalization to make new play rules; on the other hand, Shanghai as the one-and-only city of the developing countries which ever hosted EXPO, it was making the great endeavor in order to make itself as a paradigm for the 21st century. Therefore it was
the reason that we choose Shanghai and the case of EXPO to interpret the motivations and the innovation in institutional arrangement and planning procedures of rapidly transforming Chinese cities.

The first part of the paper will introduce the economic and spatial background of Shanghai and the identity cards of EXPO 2010. In the succeeding part, we will notice this “big event” has been successfully utilized as a trigger of urban regeneration. Another strategy of pre-post model combined the EXPO facilities with the future needs of the city and initially decided the plan not only forwards but also backwards. The institutional arrangement continued the essence of the pre-post strategy: the local government operated this piece of land through a “urban development corporation” - a public and quasi-public partnership, and in this way guaranteed the financial support not only of the construction of EXPO, but also of the constructions through the city. In the planning and decision making procedure, we observed the chief planners played more important roles compared with the previous cases. Lastly, the achievements and the lacking would be discussed.

1.2 The background of Shanghai and the EXPO

The economic trace would help us understand the destination of Shanghai. In 1999, when the EXPO was proposed by the local government, the gross domestic product of the tertiary industry for the first time exceeded the second one. In the following period, although the tertiary one is always higher than the second one, they were almost struggling – the tertiary could not win in big extent. All these told us that Shanghai has been going through the economic transformation from industrialization to post-industrialization, and it is now on the bottleneck of this transformation.

Fig.1: The evolution of the composition of Gross Domestic Product of Shanghai (1978-2010)
Thus the comprehensive plan of Shanghai (1999-2020) (The Chinese Sate Council, 2001), has clearly defined its destination as “the international economic, financial, shipping and trade centre”. In the spatial aspect, on one hand, Shanghai would enhance the trade and public function in its central city; on the other hand, Shanghai would like to scatter the population and industries into its new towns (the towns with iron industry, automobile industry, sea port, airport, university aggregations, etc.).

The EXPO was prepared within the context above, and the previous intention of “combining the construction of Pudong Exhibition Centre and hosting the EXPO” (official website of EXPO 2010, 2011) has turned to be the largest-ever World EXPO in terms of size (5.28 km²), number of events (23 thousand), and number of visitors (73 million). It is reported that around € 2.03 billion \(^1\) was invested on the constructions within the EXPO site (Shanghai Audit Bureaucracy, 2011), and the total investment including the infrastructures constructions through the city was around € 30-40 billion (Morning news, 2010-10-31). Thus it seems interesting for us to learn how it turned to be a series of huge projects through the city, and how it was realized.

\(^1\) It is reported by the Shanghai Audit Bureaucracy that the investment on the constructions within the EXPO site was 19.737 billion RMB. According to the first season exchange rate between RMB and Euro, it would equal to around 2.03 billion EURO.
2. The Strategy, Institutional arrangement and Planning procedures

2.1 Strategy: “big events” as a trigger of urban regeneration / development

According to the implications of the EXPO location and the achievement of its new urban infrastructures, we could be aware that the EXPO 2010 was utilized as a good opportunity for the city to achieve its destination - transferring it economic and spatial structure from industrialization to post-industrialization, reviving the inner city, integrating both sides of Huangpu River, and redefining Huangpu River as a symbol of post industrialization, and this intention was especially obvious when a new “communication / trade centre” was proposed for the post use.

2.1.1 The implications of the EXPO location

As showed by figure 3, the location of EXPO 2010 was chosen in the central city – it is close to the urban inner ring and it covers both sides of Huangpu river.

When we go backwards to the comprehensive plan of Shanghai (1999-2020) (figure 2), we could notice this location broke through the comprehensive plan in 2 dimensions. In the comprehensive plan, this location was reserved as industrial use – it settles the oldest and biggest ship manufactory of China, and it was very difficult to be relocated even at the moment when the 20-year plan was made. In the second aspect, the CBD of Shanghai was planned in the “Bund and Lujiazui financial area”. Considering after EXPO, an area with top-class offices, conference center and culture places would be built in this location, we considered it extended the CBD of the
previous plan.

When we go through the evolution of urban territory of Shanghai (figure 4), we could also notice 2 considerable points. The first one is, within the background of new town construction and unfolding its city layout, the EXPO location was still chosen in the central city. And with the development of the east part of Huangpu River, this location which covers both sides of the river seem strengthen this trend. Until now, the location of EXPO site has obviously implied that this event has been used as a trigger for enhancing the post-industrialization functions of the central city, and for integrating the city territories.

![Figure 4: The evolution of urban territory of Shanghai (1979-2008) (Source: Zhang and etc., 2011)](image)

### 2.1.2 The achievement of its new urban infrastructures

Meanwhile, the municipality has used this opportunity to upgrade its infrastructures: A brand new terminal - T2 of Hongqiao Airport - went into operation in 2010; the transfer centre which connects T2 terminal, high speed train, urban metros and buses was built (figure 5); from 2005 until 2012, the city has tripled its operating subway lines from 121 km to 510 km; no mention that the bus services, accommodations and urban environment has been greatly improved.
2.1.3 The “big events” strategy has been more and more used by Chinese cities

Therefore, the EXPO has been a milestone of the post-industrialization of Shanghai: it broken through the dilemma of the comprehensive plan; it reconstructed the urban structure and it greatly improved the city infrastructure. Taking the paradigm of EXPO 2010, more and more 1st and 2nd level Chinese cities started to use this “tool” for its regeneration / development, for example: The International Horticultural EXPO 2014 and city of Qingdao, The Youth Olympic 2014 and city of Nanjing. In this sense, the local governments have been more and more devoted to the city regeneration and development as the initiator, as well as the new orientation of post-industrialization plays more and more important role for the “new” city economy.

2.2 Strategy: Pro-Post model to create a world city

Being aware of the destination, we consider the other key strategies to be the “pre-post model”. The planner stretched the planning effective date to 2020 when a world city is expected, and made the design not only forwards but also backwards. Therefore, the planning structure, the infrastructures and a big percentage of buildings which are constructed for EXPO 2010 could be directly put into operation after the EXPO. Also in this way, the pre-paid budgets by the post-users guaranteed the successive financial support.

2.2.1 The Pre-post idea and its perspective

The pre-post idea originated from the planners’ vision that “there should be long-term
consideration behind the short-term event”, and “the 184 days are not the ultimate goal of Shanghai since the beginning. They are the 184 days within the period in which we construct our world trade centre” (Wu, 2004). Thus EXPO 2010 was considered as a pre situation of the post perspectives.

Matched with the city’s destination, the post perspective of Shanghai was designed as a world city. Especially a new “world communication / trade centre” was proposed in this site after the EXPO –“It is a trade center, but it will no longer be the place for barter or finance exchange, but be the place for exchanging different culture and ideas” (Wu, 2004). In the post use plan, the "EXPO axis and four pavilions" will be reserved and served as the core of this area: to provide the shared facilities such as the exhibition and press promotion functions. The west part would be the international trade center which hosts headquarters and international organizations, the east part would be the domestic trade centre providing top-class offices and accommodations, while the north part would be the local trade centre supporting cultural functions such as museums and creative industry blocks (Fig. 7). Because of the dense activities during and after EXPO, this site was also planned as a hub of urban transportation: it will support the modes of automobile, metro, urban buses, waterbus and helicopter. In this way, a new urban center with exhibition functions, the press functions, the international and domestic commercial or non-profit offices, the public open space and the cultural amenities are formulated; both sides of Huangpu River are integrated not only in the sense of functions and images, but also in the physical sense of the navigation, new metros, bridges and tunnel.

Fig. 6: The structure of Post EXPO plan (source: Wu, 2004)
2.2.2 Design forwards and Design backwards: Combination of the EXPO facilities with the future needs of the city

Comparing the regulatory plan 2005 with the post use plan 2010, we would discover the continuities not only in planning structure, but also in the land use (Fig. 7). This is the essence of “pre-post” strategy, and the associated design skill was “design forwards and design backwards” - to combined the reality of EXPO’s facilities with the future needs.

“Design forwards” means that some constructions were required by the EXPO, and it could be continually used after the EXPO. For example, the EXPO axis and the 4 permanent pavilions was the core of the EXPO site, and will be reserved as the exhibition place, the top-class conference place, the show place and the permanent museum after the EXPO (Fig. 8). The Ship yards and some industrial buildings were conserved as exhibition place during the EXPO, and after the EXPO, the ship yards area will be transferred into the first Chinese modern industrial museums and the first
EXPO museum, while the “best practice area” will be transferred into the cultural industry districts (Fig. 9). Meanwhile the EXPO village will be remained as 5-start level hotels, high class apartments, economical hotels and A class offices (Fig. 10).

“Design backwards” means that the post use should also influence the EXPO plan.
One example would be the “Back Bank Block” (Fig. 11). An international trade center which hosts headquarters and international organizations was designed, and the register report described “its form could refer to Lujiazui financial centre”, because as the turning point of Huangpu River and it could be another symbol of the river just as “Lujiazui financial center”. Thus in the EXPO plan, here located the removable foreign pavilions. Another example would be that the EXPO transport system was designed in urban use standard, that is because it could be transferred to urban infrastructures as soon as the EXPO finished: the road system could be used directly, metro no.13 will be transferred from EXPO site line to urban metro line, and the Xizang Road tunnel will be transferred from EXPO tunnel to urban tunnel (Fig. 19).

![Fig. 11: The perspective of “Back Bank Block” and its use during the EXPO](source: The regulatory plan 2005)

![Fig.12: The EXPO transport system was designed in urban use standard (source: The regulatory plan 2005)](source: The regulatory plan 2005)

2.2.3 The “Pre-post” vision

This strategy was considered as the foundation of the financial support. With this relatively defined urban grid, the EXPO land operators could release the land before, during and within a short time after the EXPO. Also this strategy avoids pulling down
the pavilions in a big scale after EXPO. In this sense, it well represents the principle of sustainability. Lastly, the facilities which were remained could be involved into market operation as soon as the EXPO finished, so as to recoup the investments. For example, the Expo Performance Center was renamed as “the Mercedes-Benz Culture Center” on the second day when the EXPO was finished.

2.3 Institutional arrangement

2.3.1 The local government as the most important actor

Due to the EXPO is a public event, it would be normal that the government acted as the most important actor. However we have observed the specially strong intension and effective operation of the local government in the process.

The idea of hosting the EXPO 2010 was proposed by The Mayor of Shanghai in 1999, and it revealed the intention of the local government to promote itself in the global market and to grab the opportunity of transformation.

Although the EXPO was guided by the national and local government, the exclusive job was carried out by “the EXPO Coordination Board” which was composed by the relative government bodies. Especially the land property transformations were in charged by its affiliated sector – “EXPO Land Reserve Center” and “EXPO land Ltd.” (36% of its investments was from EXPO Land Reserve Center, 32% was from Shanghai Land Reserve Center, and the left 32% was from Shanghai Urban Infrastructure Investment Ltd.). These land operation sectors collected the rights of land usage from the inhabitants and the public and private enterprises. After the EXPO, the land would be released. This is the way for local government to guaranteed the financial support for such a big public projects not only within the EXPO site, but also for the constructions through the city.
Another interesting phenomenon is that: after the EXPO, the (national) government owned enterprises have been the first post users – 13 enterprise have got the rights of land usage for their headquarters with relatively low price. And we considered this action helped reduce the risks of the development. Thus in order to guarantee the success of destination, the government (national & local) acted as the initiator, developer and first consumers of this event.

2.3.2 The Land Operation: The concentration of the investor and beneficiary

The special part of this case seems to be the land operation process. Firstly The EXPO land reserve centre and “EXPO Land Ltd.” collected the rights of land usage from the inhabitants and the public and private enterprises. Most of the families were relocated in 2 EXPO communities which are 15km and 40km far from the EXPO site; the oldest Chinese ship manufactory was relocated on the periphery of the municipality; and the other industrial land was purchased with the price around €110-140 thousand/666m². Then according to the construction of EXPO, this piece of land has turn to the “mature land” with excellent amenity. Finally, after the EXPO, this piece of land would be released to the public and private users according to the
post use plan, which is approved by the Shanghai Planning and Land resource Bureaucracy. This process continues the essence of “Pre-post” strategy, using the EXPO as a middle phase of its transformation of property ownership and the land use.

In this process, a remarkable added value of land was acquired by the local government. And from this point of view, it could be considered that an urban development corporation - a public and quasi-public partnership has been set up.

If we checked the source of the EXPO construction investment (Fig.14), we will discover that the investment from local government took 13%, which was not a big share; and the investment from national government took 6%, which was neither a big share; while the biggest source is “other source”, which took 38%. And on the other hand, one of the duties of “EXPO Land Ltd.” was identified as “collection of the land development fund from sources other than the government source” (official website of EXPO 2010). And as mentioned above, its approach was the land operation. Thus we observed the concentration of the investors and beneficiary on the actor of local government, it may be the secret to support the big public projects within the EXPO site, and also through the city.

2.4 Planning procedures: The role of experts in decision making
After 2 rounds of the international conceptual competitions, the master plan of EXPO was made by Tongji Urban Planing and Design Institution, basing on the 2 schemes of the world famous studios. The characterized core was cited from the Scheme of Rogers and ARUP (UK), while the decentralized layout was learned from the Scheme of Perkins (USA). And the master plan was deepen as the detail plan by Shanghai
Urban Planning and Design Research Institution.

The planning process was in charged by the chief planner team which was composited by 3 experts with different majors. When some ideas or especially some changes of situation emerged, the chief planner team would discuss and make the decision with the 3 administration sectors which were in charge of Policy, Land and Implementation respectively. After the decision was made, the modifications would be implemented by 3 planning institutions which were in charge of the master plan, regulatory plan and infrastructure plan (Fig.16). It is the first time that the role of “experts” is on a higher position than the administration sectors’, and the “round table” between the experts and the administrations made the design more effective.
3. The Discussion: the achievement and the lacking

Consequently, we are about to apply the new urban policy strategy in examining the major policies of Expo 2010 by the logic of Boyle and Rogerson (Boyle & Rogerson, 2001; Vicario & Monje, 2003, p. 2385). But as many theoretically lack for the oriental-world and many the particular on-site features, many shortages exist, we would also like to propose the discussions and comments.

3.1 The achievements

3.1.1 The inner city regeneration, place making & new economy sprung up

It has been almost 20 years after Shanghai has campaigned for Expo 2010, during the decades the endeavor of the authority together with the planning team has largely and in a certain degree transferred the atmosphere of Shanghai metropolis from a rapid industrial city into the city with something more. In the perspectives of the destination, and also of the spatial form, we may thus easily consider the transformation of Shanghai was stepping after the strategy of Baltimore in the 1980, Docklands in its 80s-90s as well as Bilbao or Rotterdam about 2000s.

As showed below, the reserved EXPO pavilions and the industrial constructions rebuild the “Identity” of the space. Also the international neighborhoods and top-class offices constructed by the river banks were the show-windows standing for the mega-scale markets concerning of art, cultural and leisure industries.
3.1.2 Redefine Huangpu River as the key element of the urban development

Nowadays, the cultural resource of city with the tremendous historical feature of locality has been strong momentum driving an explicit spatial strategy for local development and that makes the initiative of local forces to transform “the discourses and practices through such an initiative, “in other words, that ”opportunity structure” (Healey, 2009) tuning space of economy into the economy of space, consequently additional profits in land value would be expected as its rewards. EXPO 2010 was exactly the case that transfers Huangpu River into the resource of the cultural capital and developing momentum. Also, because the successfully developed business center – Lujiazui is by the river bank, now with the emphasis of Expo, the Huangpu River would integrate the post-industrial functions in spatial, economic and cognizant.

3.1.3 The new urban governance

We considered the success of the EXPO 2010 owning to the emergence of a new urban governance system which conquered the relative closed bureaucratic system. An urban development corporation - a public and quasi-public partnership was set up to make the Strategic Plan and implement in fact as a lobbying institution. Here, we may also easily to acquire, as the EXPO Coordination Board (and its land department) which has financed 38% of the construction fund was empowered by policy implication as well as policy negation. Therefore, the intensive cooperation among the first sector, quasi-public body and the private actors implied the neo-liberalist approaches which developed the flexible skills that tolerated the negotiation and
exchange between the public and private sectors in public realm is emerging.

3.1.4 The pre-post strategy as a theoretical and practical breaking through

We consider the pre-post strategy as a theoretical breakthrough. The special part is the planner could foresee and manage the situation (authority of the developing right, the stakeholders, etc.) not only at the moment of the event, but also after the event, that made this event the turning point of Shanghai’s transformation towards the world city. It may be the specific outcome and the advantaged aspect of the Chinese “planned economy” logic and background.

3.1.5 The practices of new (sustainable) technologies in such big scale

Many environmental friendly technologies have been applied on site, such as the greenery, water purification, solar power and cooling technologies were for the first time exercised in reality and in such big scale. We consider it promoted not only the ideas but the practical approaches for sustainable development. After all, after the rapid industrialization, it is time to consider and develop the local environmental friendly technologies to take place the environmental-consuming industrial. Thus there should be a longer term strategy to guarantee a long term transformation of/after Expo.

3.2 The lacking

In the past few decades, many researchers have well examined the logic of the inner city revitalization (Hamnett, 1994; Musterd, 2005; Wacquant, 2008). In this case, the authors would conclude and manifest the logic and the sequences extremely in the following points.

3.2.1 Economy originated strategy and the accompanying social problems

As some critics commented (Vicario & Monje, 2003, p. 2368), if the government targets the strategy aim only on the economic development, within this logic, the investments thus would concentrate on the economy boost and physical improvement in the city centre. In the cases of the west, through these policies thus could led the
“planning” into success (for example, London Docklands). However, that side-effects, such as “gentrification” caused social exclusion and spatial inequality that brought about disasters in the lower-income areas, as we have found cases in Baltimore, Glasgow, Bilbao and Barcelona last century.

And it is just the logic of Shanghai to allocate its resource in the latest 20 years. It is not difficult for us to foresee that, more and more advanced residential, commercial districts and more active waterfront landscape will emerge. And the accompanying disaster for the lower-class residents apparently to be no doubt to happened as well in Shanghai, we would keep an eye on it.

3.2.2 The change of traditional grid and the loss of Locality

In addition, regarding to the consideration of “central place theory” it may not able to skip the strongly recommendation of economy orientation. However while in the condition of the traditional Chinese locality where the intensely positioning of mixed use has been exercised abiding by the traditional social relations in the city-square or “commercial streets”. Thus such a direction of “modern planning” may lead to the change of traditional grid and the loss of Locality.

Fig. The detail plan of Block B, Block A and the Xizang Road Block
(Source: Shanghai Planning and Land resource Bureaucracy, 2011&2012)

However, regarding to the post-modernity, the latter one is rather attractive to arose the city dynamics and to activate the new urban economy. In the commercial or trading functions, it is suggested to be emphasized. Although the previous poor houses may not deserve to be reserved, it is always the designers’ duty to find out the connecting points between the old forms/ grids and the new functions.

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2 W. Christaller in the 1930s and, later, A. Lösch 1950s both considered that the central place in the settlement serving with the major responsibility of internal trade. Hence the distribution of industry was located by considering the distance with the central place.
3.2.3 Imperfect mechanism to realize urban policy: The lack of the third and fourth parties

We have observed the good performance of the public sector, and it is emerging that the private actors are quickly involving in the second redistribution process (post use process). However, the lacking of the third, even the fourth sectors - the citizens, would be an issue to underpin.

As mentioned above, although the experts played more important roles, we would be aware that the decisions were still made by the political power and its consulters – the elites. Even the definition and the practice of citizenship in China is not yet clearly defined. But, after the construction, the completely cleared and demolished local clue has been a scene to figure out the original local inhabits were complete drove and migrated out of the site.

3.2.4 The debate of “big event” as a trigger for urban regeneration / development

The essence of this strategy is to invest on infrastructure within a short time and shorten the evolution of the urban development. This investment could stimulate economy, but in the following years, the demand about the infrastructure constructions have been exhausted, and that would turn back to harm the sustainable development of the economy.

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