

Upgrading the City Quality of Shanghai Making Use of the 2010 World Expo Opportunity

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Abstract

Shanghai will host the 2010 World Expo from 1 May to 31 October 2010. Since 2005, the government of Shanghai started the overall planning for the event from various aspects, with the overall upgrading of the urban and environmental quality of the city as one of the main themes for this project. The upgrading scheme includes the decommissioning and removal of some of the aged factory and shipyard facilities along the Huangpu River in order to provide land space for the locating of the Expo venue; provision of the required infrastructure to facilitate the new facilities; construction of more than 40 kilometres new metro lines as part of the enhancement of the existing subway system with 2 new lines leading to the Expo venue; provision of greening and landscaping space along the river bank as part of the visitor facilities of the Expo; the renovation of all buildings facades along the perimeter of the 7 square kilometres Expo site; renovate all major historical buildings within the entire city centre with heritage value; revitalize some of the representing heritage buildings to achieve specific functions including for use as hotels, visitor centres or high-class restaurant to receive visitors coming to the Expo worldwide. Besides forming a major part of urban quality enhancement inputs, some of these works, as from the view-point of China, are part of what generally called the imaging-projects. The preparation of all the involved works are at the high-peak since the beginning of 2009. Apart with a highlight of the design and construction of the major facilities and exhibition pavilions within the Expo venue, the main theme of this paper will try to focus on the upgrading elements that the government of Shanghai is going to implement making use of the opportunity of hosting the 2010 World Expo. Representing cases in particularly on large-scale revitalization projects will also be highlighted as part of the illustration.

Keywords: World Expo 2010, Shanghai urban structure, revitalization

1. The Shanghai 2010 world expo venue

World Expo 2010 will be held in Shanghai, China. The theme of the exposition will be "Better City – Better Life" and signifies Shanghai's new status in the 21st century as a major economic and cultural center. The Expo will take place from May 1 to October 31, 2010.

It is expected more than 55% of the world population will be living in cities by 2015. The theme of the Expo is thus trying to display urban civilisation to the full extent, exchange their experiences of urban development, disseminate advanced notions on cities and explore new approaches to human habitat, lifestyle and working conditions in the new century. It also demonstrates how future city can create an eco-friendly society and maintain the sustainable development of human beings therein.

Within the history of World Expo since 1851, the site for the World Expo 2010 in Shanghai is considered to be unique and made a number of records. For example, it located in the most congested population zone within a mega city. The site is situated on the edge of the built-up area of Shanghai. It is only 3.5 km away from the city centre. The site was originally occupied by a number of factory premises including shipyard, workshop for heavy industries, chemical plants, power houses, cargo bays and warehouses. These structures were required to decommission and relocate; contaminated areas to be cleaned up, before the placing-in and construction of the Expo facilities.

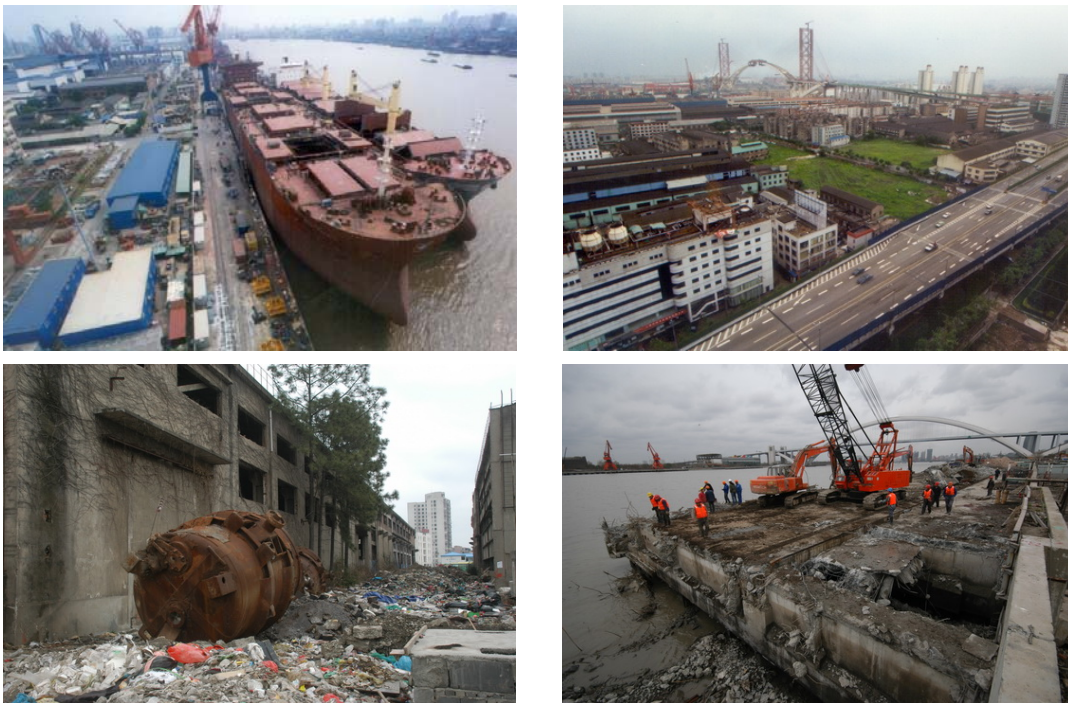


Figure 1: Condition of the Expo site before general clearance and site formation

The site of the event is located along both sides of the Huangpu River between the Nanpu Bridge and Lupu Bridge region. The area of the Expo 2010 covers 5.28 km². The Expo Venue will be divided

into 5 zones, with 3 on the Pudong (east bank of river) and 2 on Puxi (west bank). The main zone where the China pavilion sited is located in Zone B, with a 1.2 km long central access known as the “Expo Boulevard” cutting across. Other major facilities including the Theme Pavilion, Expo Centre and Performance Centre also located in this Zone. Other Expo facilities including pavilion for individual country, international organizations or corporate, either in the form of stand-alone or joint-pavilion type, are located in an organized manner on the remaining Zones. Figure 1 shows the brief layout of the Expo site.

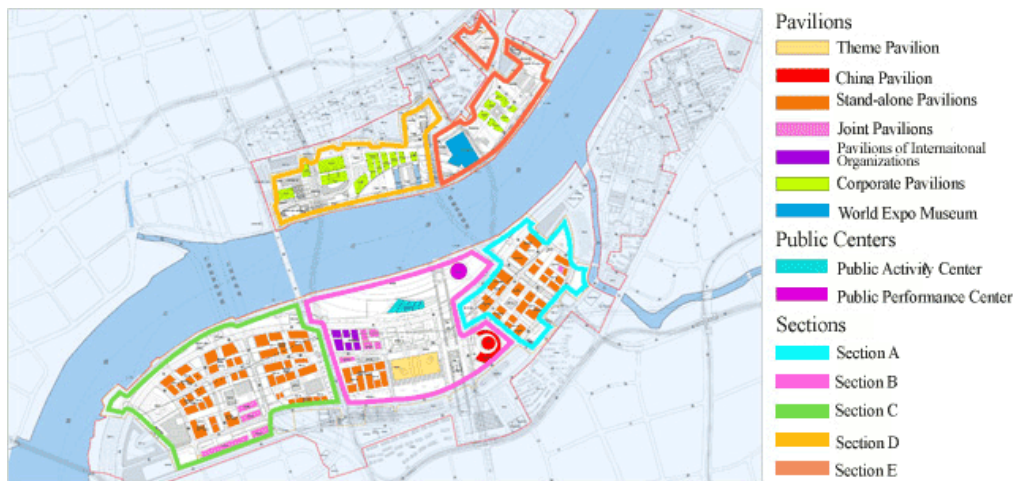


Figure 2: Layout of the World Expo 2010 along the two banks of Huangpu River

Participating organizations in the Expo are divided into 4 main types, under individual country, cities and provinces of China, international organizations and corporate basis. The availability of the facilities can be arranged under self design and construct, self design and construct by China agent, or using standard expo facility or pavilion provided by the Expo organizer. Land parcels will be provided to participants free of charge. The parcels are measured in units, with one unit being 500 square metres. Participants may apply for 2 to 12 units, i.e. 1,000 square metres to 6,000 square metres as their options.

Majority of the pavilion, exhibition centres and Expo facilities are newly constructed in the form of prefabricated steel structure. A few specially selected facilities, including some existing factory buildings, steel plants, assembly workshop, dock and slipway, will be reserved and converted into facilities for outdoor public exhibition, theme centres, or just serve as a preserved structure to reflect the heritage identity of the places. Out of these retained buildings, two huge structures, one was an assembly workshop for the previous shipyard, the other was a abandoned power plant, were preserved and converted into a museum for shipping industry and Expo Museum respectively.



Figure 3 and 4: An assembly workshop for the previous Jiangnan Shipyard were preserved and converted into a museum for shipping industry.

2. World expo facilities

The land and facilities/properties occupied by various parties located within the World Expo site was resumed in stages starting from early 2006. The first lots of land to be vacated was the old factories premises, plant houses and cargo handling facilities on the eastern bank of Huangpu River (Pudong). Following were the shipyard and dock facilities on the western bank (Puxi) which were being cleared by the mid 2007.

Before the construction of the main structures for the Expo facilities, a very large scale site formation was carried out. The works included the decommissioning and demolition of all existing buildings majority of which were factory or workshop except for those planned to retain for conservation purposes. The most challenging part, of course, was to carry out the decontamination of the land area within the site which had been used for chemical plants and heavy industries of highly polluted nature for more than half a century's time.

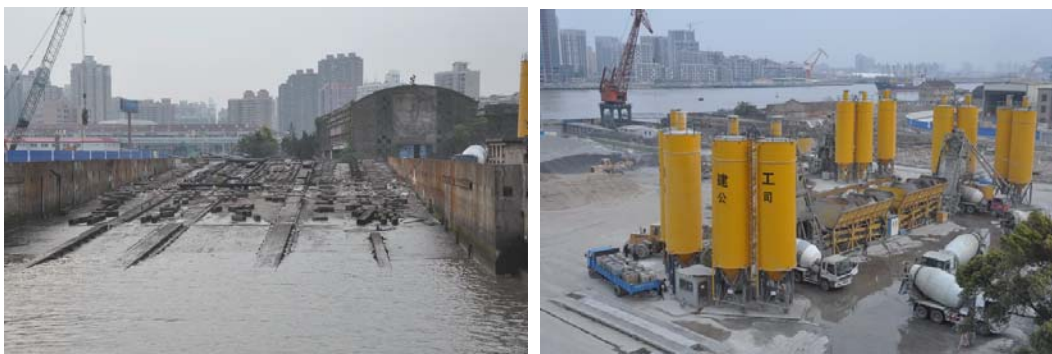


Figure 5 and 6: Removing, decommissioning and decontaminating the heavily polluted old facilities within the Expo site is a challenging task at the early stage of site preparation.

The site formation also included the reforming a new promenade strip on both sides of the Huangpu River bank. By doing so, more than 3 km of the old berth and flood preventing dike, constructed in

reinforced concrete some with piled foundation, were to be demolished and give way for the new promenade which forms also part of the landscaping and ferry pier provisions to the Expo.



Figure 7: Forming the new river bank along the Pudong strip



Figure 8: A new visitor ferry service point on the new river bank



Figure 9: The green area along the river bank forms a main focus of the Expo layout

The Expo facilities fall into 4 main categories. First are the permanent facilities constructed by the Expo Authority which will be retained after the event as part of the future facilities of Shanghai. These included the China Pavilion, Theme Pavilion, World Expo Centre, Expo Performance Centre, Public Activity Centre, World Expo Museum and the Pavilion of Urban Future.

The first eye-catching facility in the main venue is the Expo Boulevard which is located in the centre of the Expo Site on the Pudong side. It is the main entrance and is the largest stand-alone structure of the Expo. The Expo Boulevard is a semi-open structure and has two floors underground, one above the ground and one canopy. Besides serving as the central access-way for visitors to sight-see and enter into the main pavilion areas by the use of a series of elevated walkway, it is also used as a transportation hub, official reception or other communal points in general. The Boulevard will continue to be used as the main axis to this new city zone with attractive landscape features after the Expo.



Figure 10: The Expo Boulevard with its eye-catching tent and inverted-cone structures that forms a covered central axis and elevated walkway network that takes visitors to the main pavilions within the Expo principal cores.

The main focus of the Expo, of course, is the China Pavilion. It is designed with the concept of "Oriental Crown" symbolized by Dougong brackets, which is originally a structural element constructed in timber representing traditional Chinese architecture. The main colour being used is the sacred colour representing the supreme "Red" used in the Forbidden City. The China Pavilion is a facility complex consisting of the Chinese National Pavilion, regional joint pavilions for various provinces, and pavilions of Hong Kong, Macao and Taiwan.



Figure 11: China Pavilion with its Dougong brackets and Supreme Red color



Figure 12: The Expo Performance Centre in the form of a gigantic disc

The Theme Pavilion located in Zone B of the Expo Site may best represent the host city of Shanghai. The shape of this Pavilion borrows the "lane" and "dormer" concept which is a very popular layout of residential blocks adopted by the old Shanghai since the turn of the 20th Century. It is a gigantic structure in the form of a huge block measured 300m x 200m x 24m high. It is designed and built with a focus emphasizing its performance as a "green, energy-saving, environment-friendly" building.

Another equally huge structure is the Expo Centre located at the water-front green strip in Zone B of the Expo venue. This building has a foot print about 350 meters by 90 meters, with a total floor area of 140,000 square meters. Being one of the major permanent buildings, the Centre will serve as an official gathering place for major ceremonial functions, conferences, press and media centre, conference venues, or to conduct various forums during the Expo.

Located in the north of the Pudong Section of the Expo venue close to the river bank, the Expo Performance Centre is a huge non-symmetrical disc-like structure measured about 180m x 150m with a floor area of 126,000 square meters, of which 74,000 square meters is above ground and 52,000 square meters underground. The centre consists of a central stage for major performing functions, one functional hall which can house 18,000 audiences and other supporting facilities. One unique feature is that the audience seats can be convertible between 4,000 seats, 8,000 seats, 12,000 seats and 18,000 seats by the plugging in of seating modules to fulfil specific performance requirements or to fit the designated number of audiences. The central stage is the first of its kind in China which can be adjusted to form different shapes within 360 degrees. Therefore, it can provide huge space for stage design, artistic innovation and imagination for various performances.

Besides, there are more than 150 pavilions belong to other participating countries, non-government organizations or corporations. Many of these facilities are very well-designed by international design consortium with innovative idea and vision both in the building design and the exhibited content to illustrate the state-of-the-art advancement in technology, social system, culture and tradition, or other best practices in urban development in the country they belong in order to respond to the main theme of the Expo, “Better City – Better Life”. And of course, many of these high-quality facilities, like the pavilions of the United Kingdom, Canada, Denmark, France, Luxembourg, or Japan, just to mention a few, will be retained for some other purposes yet to be desired.



Figure 13: The Australia Pavilion



Figure 14: The Holand Pavilion



Figure 15: The Japan Pavilion



Figure 16: The China Aviation Pavilion

3. Upgrading the urban quality to meet the Expo event

Besides the successful organizing and hosting of the Expo event and the construction of the required facilities, the municipal government of Shanghai also wish to make use of this opportunity to upgrade the entire urban quality of the city as one of her major targets. Five distinctive areas of work are set for a period of 6 years and beyond in order to implement and achieve these targets. The areas of work include:

a) Clear-up and relocate an aged city zone full of contaminated wastes and polluting industries that is unfit for a modern city. These areas particularly include various strips of land along the bank of Huangpu River stretching on the east and west side within 5 km from the city centre. Some of the land has been used for more than half a century as workshops for heavy industries, port facilities, dockyards, cargo handling bays, warehouses, power station, chemical plants, cement and concrete mixing facilities, or temporary sheds and squatter area. Starting from the late 2006, these areas were vacated in stages for handing over. Part of the area was cleared and regenerated for use as the 2010 Expo site. Some closer to the city centre have been redeveloped for commercial uses such as the “Pier 16” project. Some are used as port facilities such as the “Shanghai Port International Cruise Terminal” located in Hong Hou. In locations relatively more remote, the land is reserved for future use under a tentative zoning arrangement.

b) Beside the main pavilions and the associated facilities for the Expo event, the project also involves the construction of other facilities including provisions to facilitate visitors, pedestrian facilities, landscaping provisions, as well as an infrastructure network including sewage and waste treatment facilities that is required within the area in a long run. Except some design for short term exhibition purposes such as pavilions of minor nature, majority of the facilities will be retained as part of the hardcore settings for the future land which will be used as a new city zones to support various urban functions. In terms of the transportation provision as a major part of the infrastructure, there are two new metro lines, one new vehicle cross-river tunnel and four ferry piers serving the Expo venue, not to mention the two existing metro lines and other nearby roadways located in the immediate vicinity of the venue.

c) The Expo facilities have a perimeter of 8.5 km teething to a heavily inhabited city boundary with majority of the buildings nearby constructed in the mid 1980s, by the time Shanghai was just at the early stage of her economic take-off. To be exact, those buildings facing the Expo venue are not in a very good condition. Making use of the same opportunity, the government carries out a large-scale upgrading work to these areas by refurbishing the façade of all buildings along the first and second rows of streets that are facing to the Expo venue. The urban quality around is also uplifted by the provision of more greening zones, pedestrian facilities, realigning and repaving major driveway and pedestrian walkway, upgrade the streetscape, and finally integrate these areas with the new city fabric to fulfil the urban needs in a long run.



Figure 17: Buildings located just on the touching boundary of the Expo site



Figure 18: Teething into the nearby district with roadways and pedestrian facilities

d) Besides along the Expo perimeter, buildings and urban zones along all main streets within the entire old city are performing similar upgrading works in particular for areas with large amount of historical buildings with heritage value. These areas include the districts of Huangpu, Luwan, Xuhui, Jing'an and Hong Kou, majority of which belonged to the previous International Settlement of British and Concession Area of France since the late 19th Century. This kind of urban upgrading works to a large extent is a long term “Imaging Project” as described by the municipal government and does uplift the overall urban quality and heritage constituent of the city.

e) At the same time, buildings with representing heritage value in the old districts were carefully selected, renovated and converted into facilities to serve more high-end functions such as for use as hotels, restaurants, commercial complex, office premises, clubs, visitor centres etc. Some of these buildings are clustered within a historical site with plenty of public open space and landscape area to make it becomes a unique attraction. Examples of these include the previous British Ambassador premises, the church and ancillary facilities nearby at the north corner of the Bund where the western countries started their base in Shanghai. The area is now delivered to several consortium groups and undergoing a large-scale conversion involving more than 8 blocks of buildings, average 90-year old. The final facilities will be handed over as a high-end commercial complex with shops, club, restaurants, hotel, and public spaces before the official opening of the Expo in May 2010.



Figure 19: Representing buildings being renovated and converted for other uses



Figure 20: Representing buildings being renovated and converted for other uses

4. Transition of Shanghai resulted from the World Expo

The World Expo to Shanghai is regarded as an “Ultra Important Event” that marks as a distinctive milestone to the development of the city. Apart from the actual revenues and the economical multiplying effect so generated from the hosting of the event, it also brings other significant benefits to Shanghai from the strategic development point of view.

During the planning and development of the activity, it helps to remove, relocate, restructure and stream-line a number of out-dated industrial facilities within the Expo site and even districts beyond. To a broader extent, this also becomes a good opportunity to review and fine-tune the Master Planning (or Comprehensive Planning) of Shanghai that was first introduced in 1999. As a result, the overall city layout is effectively updated to fit with the integration of the new Expo facilities. For example, in the Comprehensive Planning there is a “3-concentrated” principle trying to focus on, first, the repositioning and gathering of the core economy including heavy industries, manufacturing, media and creative industry, IT and trading business into well-coordinated zoning areas in order to produce more pinching effect. Second is to maximize the urbanization effort by re-organizing the land resources in a more efficient manner. Lastly, to concentrate the urban facilities to fit various needs of the community in view of enhancing actual living quality within the city. The new city layout, urban facilities, upgraded urban content as well as an extended transportation network, are core elements to

achieve these fundamental targets. The new opportunity coming from the running of the Expo does provide an outlet forming part of this enhancement processes.



Figure 21: Land zones nearby the Expo site being re-organized and ready for use meeting the updated urban fabric after the Expo event

As an immediate result, upon the completion of the Expo event, a significant amount of upgraded land reserve with the required infrastructure support and public facilities will be handed back to the city. These include ready-to-use facilities for performance, exhibition, museum, public gathering, leisure and amusement, residence, and other multi-purpose public functions. These are up to the present status still under-provided in a modern city like Shanghai. Besides, quite a large amount of unique and high-quality architecture will be retained in the area that forms a very good urban backbone and tourist attraction much more than its plain commercial potential.

One of the design features of the master layout for the Expo is the emphasis on a high-quality promenade strip on both sides of the Huangpu River. This provision was never existed in the past along the river so close to the valuable downtown area. The Expo opportunity thus gives a new life to this once isolated land and revitalized the entire urban ecology of the city. With the new transportation infrastructure linking up to the Expo, large area of land on two sides of the river is released and seamed up to the transforming city fabric, making the utilization of the land becomes much substantial.

Besides these hard elements, there are some other side-effects also get the benefits from the Expo phenomena. For example, the implementation of the Expo event sets a perfect learning process to

uplift the overall urban culture of general public and help people to transit into an ideal global citizenship. In order to perform the role as a good host in the event in term of public relation, event management, communication and even business opportunities, Shanghai has developed and enhanced her IT network to serve such demands. This network will continue to serve Shanghai in future forming part of her e-infrastructure.



Figure 22: A high-quality promenade strips stretching more than 4 km along the two sides of Huangpu River will be handed back to public in 2011. This kind of public space is the first time that Shanghai possesses at one of the end-products of the Expo event.

The bringing in of more international visitors, as Shanghai has been looking forward for years, substantially provides a chance for the entire city to have a close-encounter of the western world and culture. This is very important for Shanghai with a development strategy to go worldwide especially with her goal settings as a shipping, financial and trading centre of Asia. After all, a new horizon and attitude to perceive a modern era has been opened. This may be some un-aware constituents that the World Expo also brings to Shanghai.

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