

## 2010 World Expo and Urban Life Quality in terms of Sustainable Development

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**Abstract:** *Based on the UN's Human Development Index, this thesis puts forward what the quality of urban life implies, makes a study of the world Expo's potential influences on the urban life of Shanghai and advances the strategy and measures to strengthen the life-quality-facing urban management*

**Key words:** *World Expo, life quality, sustainable development*

### 1. Life quality is the uppermost goal of sustainable development

#### (1) The concept of urban life quality and its main contents

The uppermost goal of urban development and management is for the improvement of human welfare and life quality, yet life quality is a multi-leveled concept. It means different things in different disciplines. We believe although the concept of a city's life quality contains layers of meaning, its general meaning mainly involves two aspects: i.e. the objective and subjective. Objectively, it includes not only the materialistic tier, such as living standards, the fullness of the natural and social infrastructure, economic productivity, employment, prices, law and order etc, but also the non-materialistic tier, such as health, entertainment, leisure, education, arts and culture, and so on. The subjective aspect of the concept is the individuals' experiences and comments, and their feedbacks in their actual life.

We have decided the main contents of urban life quality by combining with some other research findings and by taking advantage of the human development indexes as our basic framework, which are advanced by the UN Development Program and are now believed to be the internationally authoritative ones to the life quality of a region or country. It is composed of human development index representatives and the life quality in four main fields, namely the life quality in economy, health, education and environment (Figure 1-1).

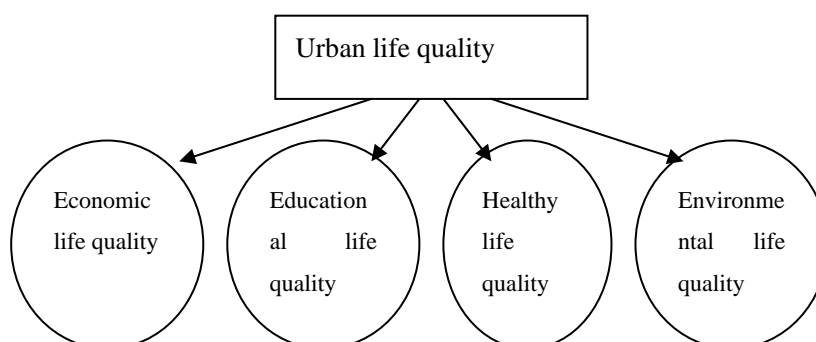


Figure 1-1 Urban life quality based on human development

## (2) Economic influences on urban life quality

The development of economy is key and decisive to the improvement of the life quality. It functions in the following ways: firstly, proper national policy. In the recent years, our country has held to the policy of domestic demand expansion, and implemented the positive fiscal policies and dovish monetary policies. These policies have resulted in certain beneficial effects. Domestic demand keeps a steady growth, which both spurs the economic development for the time being, and lays a sound foundation for the future long-term growth. Secondly, increase in the fiscal input of the government. Output rests on input. Increase in fiscal inflow, along with the improvement of the productivity, will lead to more output.

## (3) Healthy influences on life quality

For man to achieve overall development, and to expect for continual improvement of life quality, health is fundamental. The factors that affect the healthy life quality include: firstly, income per capita. The income per capita, which has much to do with GDP per capita, decides expenditure and structure, and therefore has an effect on the overall health. Secondly, income gap. Even if the income per capita is at a high level, income gap will give rise to that the minority who enjoy superior medical care have good health, while the majority are still caught in poverty and ailment. If that's the case, there will be neither satisfactory total health, nor social equity. Thirdly, sound welfare policies of the government. They will guarantee health quality. To some extent, the medical insurance system affects people's health. Fourthly, medical care. By increasing the investment in education and research, first-rank medical workers are trained to make breakthroughs in the treatment of diseases like cancer, AIDS and SARS.

## (4) Educational influences on life quality

The melioration of education is significant to the life quality. The main factors that influence the educational life quality are: firstly, economic growth. Development of education depends on the increase of investment in education, and the latter in turn is closely linked with economic growth. The increment of economic gross and GDP per capita is not only the base for the strategy of educational development priority, but also makes it possible to increase the investment in education. Secondly, income distribution structure. At present, it has become an important expense for the residents to receive higher education. The great disparity in wealth, however, leads to inequality in education. So the rationalization of distribution structure and decrease of wealth gap are of magnitude to the lift of total life quality of education. Thirdly, consumption structure. The emphasis of living consumption has shifted from on materials to on both materials and spiritual culture. This results in the increasing demand for

education and culture. And education has evolved to be a new expense focus. Fourthly, industrial structure. The annual increase of the proportion of tertiary industry and the flourishing high tech industry have brought in a tight labor market, which makes it urgent for the labor to be trained in post or to do something else. This reinforces the demand for education. What's more, the shift of industrial structure and progress of the science and technology will profoundly change the makeup of the talents and the labor demand, profession distribution, knowledge and skills and school disciplines, specialty structure and so on. Fifthly, educational system. Exploitation of the limited resources will be improved with the continuous perfection of educational management system, the adjustment of the educational layout, and the optimization of the configuration of the educational resources.

#### (5) Environmental influences on the life quality

Environment is an important constituent of human life. It's also the carrier of various human activities for existence and development and the fundamental requirement of human existence and development. So it greatly influences the life quality. The main factors that influence the environmental life quality consist of: firstly, economic growth. Things like environmental protection, traffic and housing construction, city virescence etc. depend on the investment in urban construction, of which the chief capital resources are governmental expenditures and social support. Economic development ensures the total of governmental and social investment in environmental construction. Secondly, industrial structure. Tertiary industry's growing proportion in GDP will reduce the discharge of pollutants and the negative impact of the economic growth on environment. Thirdly, the energy structure. Clean energy should be exploited and exhaustible energy replaced by inexhaustible energy, so that we can lessen the pollution of the environment and sustain human development. Fourthly, the consciousness of environment protection. Environment issues are mostly the consequences of the conflicts between mankind and the nature. Just as a saying goes, whoever ties a bell should be responsible to untie it, so when it comes to environment issues, prevention is more important than treatment. Many things can be done to popularize the ABC of environment protection, to advocate green production and green consumption to make the green conception go deep into the heart of the people. Thereby, we can bring environment consciousness into active play in environment protection and improvement.

### 2. World Expo's influences on the life quality and urban management of Shanghai

#### (1) World Expo's direct and indirect influences on life quality

World Expo influences Shanghai's life quality twofold. One is its direct influence, which is expressed in the economic activities involved in the operation of World Expo, such as investment in sites and relevant facilities construction and investment pull, or the economic activities developed around the use of the World Expo resources, such

as the programs developed for the World Expo market. The other is its indirect influence, i.e. we can take advantage of the World Expo to develop regional economy and accelerate the economic programs of urban construction, so that the economic development and urban construction can be moderately surpassing and people's life can be greatly improved.

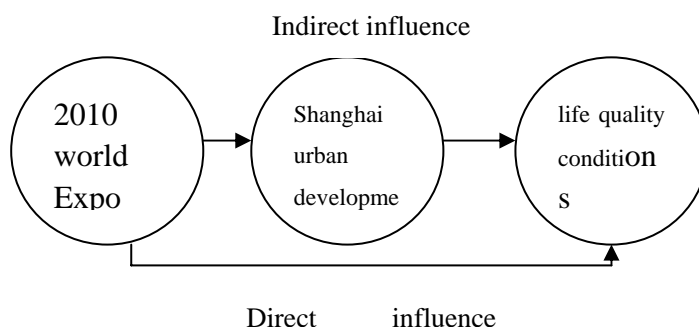


Figure 2-1(1) World Expo's direct and indirect influences on life quality

(2) Periodicity and disequilibria of World Expo's influences on life quality

For one thing, the influence of World Expo on life quality is characterized by periodicity and disequilibrium. World Expo is the core resource of World Expo economy. From the successful bid to the actual operation and to the after-exposition extension of economy, politics and culture, there will be a whole period of World Expo economy. According to the actual conditions in Shanghai, it may be divided into three stages. Before-World-Expo stage, that is the six years of preparations, is dominantly the pull of the increase of investment in World Expo sites and premises. World Expo stage, which is the year of World Expo, is mainly the drives that are augmented for the operation of World Expo, such as the strong increase in the expenses on travel, business and telecommunications. And after-World-Expo stage is the period after World Expo, in which a valley effect will be incurred that due to the restraint of insufficient demand, real estate might leave unused and tourism is not prosperous. But those issues can be avoided if scientific policies are made, the proper measures taken and sustainable development well kept.

For another, there exists disequilibrium in the World Expo's influence on life quality (Figure 2-1). (1) World Expo, through providing an increment stimulus to Shanghai's economy, has an important effect on the quality of Shanghai's economy and society; (2) World Expo serves as a new impetus to the optimization of Shanghai's urban ecological environment and will obviously influence the further improvement of Shanghai's environmental life quality. (3) World Expo will have an intense influence on healthy life quality which is connected with public sanitation, but it won't directly affect the average life expectation. (4) World Expo will have an intense influence on such aspects of educational life quality as the training of talents for fares and exhibitions, but it won't directly affect the gross enrollment of higher

education that is counted in the human development index

Figure 2-1 Intension of World Expo’s influences on Shanghai’s life quality

	Intense direct influence	Moderate influence	General indirect influence
Economic life quality	*****		
Environmental life quality	***		
Educational life quality			***
Healthy life quality		***	

So, an equilibrium strategy should be established to ensure both the operation of World Expo and the improvement of life quality. In other words, by World Expo, we should strive for a leading boost of both the energy level of Shanghai’s urban economy and the economical and social quality. And simultaneously, special attention should be paid to the increase of the public finance’s investment in such public affairs as education, sanitation and environment protection and of their use. World Expo construction should be beneficial to the betterment of the weak points in Shanghai’s life quality of education, health, and environment, but not to widen the gap from the world cities in those respective aspects.

(3) World Exeo's favorable and unfavorable impacts on life quality

World Expo may exert favorable and unfavorable impacts on life quality. Favorably, World Expo can scale up the total employment and relieve the structural unemployment, so that people’s economic life quality can be improved; With the increase of income, people will lead a more comfortable life; The living space per capita will be increased by a wide margin, environmental life quality including living and traffic will be evidently improved; The more colorful cultural activities and sports meets, the more enriched the spiritual life of people; The demand for the talents for the fairs and exhibitions will bring along the advance of education; The functions of the city are shifted and the image of the city is enhanced, and so on and so forth. Unfavorably, World Expo may bring large deficit to economy, induce traffic jams and more life rubbish, increase the probability of emergencies, cause diverse social problems with the expansion of the population, raise the business cost, and pollute the environment, etc. The purpose of World Expo research is to take effective measures to maximize World Expo’s favorable influences on the life quality and minimize its unfavorable possibilities. So the optimization of the total effect can be achieved.

(4) Direct challenges to Shanghai’s urban management in the course of World Expo

According to the estimation of World Expo bid office, 2010 Shanghai World Expo will achieve 70 million person-times with the average 389 thousand visitors

daily and the maximization of 700 thousands. The streams of people are so dense that it will become a gigantic overwhelming challenge to the urban management. Take the 1970 大阪 World Expo for example, it is introduced that although careful preparations had been made in advance, many problems still arose after the start. In the span of 183 days of exhibition, 48 thousand children went astray; lost purses contained 49 million Japanese yen; 106 tons of rubbish was disposed every day. Things the like created World Expo records. They, of course, were far from being the most worrying problems.

Judging from the situation home and abroad in the recent years, what Shanghai should nip in the bud include as follows: firstly, traffic congestion and frequent accidents. Owing to the unsatisfactory current traffic conditions and traffic regulation, it is greatly likely that traffic jam and accidents might take place in the run of World Expo. Especially when the peak of the fairs and exhibitions arrives, the situation may be worse. Secondly, the sites being on fire and victims misleading. This is an easy accident in the period of World Expo that might claim many lives. So the fire control and safety of the World Expo garden must meet most strict requirements. Thirdly, the possible political hostility and terrorism of every kind. Mistreatment of the relationship of countries present and that of the participants might readily molest World Expo with politic issues like nationalism, sovereignty, national conflicts and racialism; At the same time, domestic political rivalry, together with international terrorism and national splittism, might incur sabotage and disrupt the social order. This we should not treat lightly.

### 3. Reinforcing Shanghai's urban public management facing life quality

#### 3.1 Accelerating the conception of objectives to enhance Shanghai's life quality through World Expo

(1) World Expo should be used as a golden opportunity to build Shanghai into a world metropolis with high life quality.

In 1999, human development level of Shanghai was close to that of other Asian regional world cities like Seoul, Singapore and Hong Kong etc. (Figure 3-1), but was commensurate with 1990's London or 1980's Tokyo or New York (Figure 2). We believe that through the construction for World Expo and its main theme, Shanghai's human development index can be increased by 0.04 plus within 10 years, that is, in the year of 2010, Shanghai's human development index will exceed 0.9, and reach the average of world's high human development level. On that occasion, the position of Shanghai's human development level will change from what is now equivalent to Number 30 in the world to Number 20, and catch up with or even overtake such world cities as Tokyo and New Yorker in their 1990.

Figure3-1 Shanghai's current human development index approaching that of

other Asian regional world cities

	The year 1990	The year 1999	1990-1999 increase
Shanghai	0.774	0.87	0.096
South Korea (Seoul)	0.814	0.875	0.061
Singapore	0.816	0.876	0.060
Hong Kong China	0.857	0.880	0.023

Data source: Human Development Report 2001 and China's Human Development Report 2002 of UN's Development Office

Our belief in the realization of this goal is supported by the following: firstly, Shanghai's unusual human development in the 1990-1999 decade (increased by 0.096); secondly, an increase of at least 0.03 for cities like London, Tokyo and New Yorker in the same period; thirdly, the strong boost of World Expo and its main theme to the upgrade of Shanghai's life quality. In order to achieve the goal, we suggest that the strategy of life quality development should be made clear in the new run of the constitution of Shanghai's development strategy. The key is to bring human development index, as GDP per capita, into the development indexes that are of pivot concern in making government decisions.

(2) Implement the development strategy through World Expo that both economic growth and human development are stressed and stimulating to each other

Research by us shows there exists disequilibria in two aspects of Shanghai's life quality. One is the disequilibrium in the inner structure of Shanghai's current development. It can be classified into three: what comes first is life span expectation, which has a gap of +0.01 from that of the high human development level; education index, with a gap of 0.07, is farther away from that of the high human development level. Besides, the enrollment of higher education is yet to be greatly increased; the income per capita has a gap of 0.09; the environment index is still yet to be increased by a big margin.

Figure 3-2 prospects of the three aspects of Shanghai's life quality

	The year 2000 current		The year 2010 prospects		The year 2020 prospects	
	Shanghai 1999 current	World's high human development level 2000	Shanghai prospects	World's Number 19 2000(New Zealand)	Shanghai prospects	World's Number 3 2000 (Canada)
Human development index	0.870	0.918	0.92	0.917	0.94	0.940

Average income index	0.8336	0.92	0.89	0.88	0.95	0.94
GDP per capita (PPP)	14756	<b>24973</b>	<b>20131</b>	<b>20070</b>	<b>29581</b>	<b>27840</b>
Life expectation index	0.88	<b>0.87</b>	<b>0.91</b>	<b>0.88</b>	<b>0.92</b>	<b>0.90</b>
Average life expectation	77.6	<b>77.4</b>	<b>79.7</b>	<b>77.6</b>	<b>80.0</b>	<b>78.8</b>
Education index	0.8837	0.96	0.94	0.99	0.95	0.98
General gross enrollment	0.74	0.91	0.84	0.91	0.86	97
Air pollution index	0.61					

### (3) Implement four strategies focusing on the improvement of Shanghai's life quality through World Expo construction

In order to realize the aim of enhancing Shanghai's life quality, we suggest that the main theme of World Expo, which is "Better city Better life," be interpreted into four city building strategies, namely "employment city, healthy city, learning city and ecological city." Centering on those aspects, relevant projects should be made and corresponding pushing policies should be established.

- About economic life quality, efforts should be made to increase the average income index from current 0.8336 to 0.89 in 2010, with an addition of 0.06 or so.
- About healthy life quality, efforts should be made to increase the average life expectation index from current 0.88 to 0.91 in 2010, with an addition of 0.03 or so.
- About educational life quality, efforts should be made to increase the average income index from current 0.8837 to 0.94 in 2010, with an addition of 0.056 or so.
- About environmental life quality, efforts should be made to decrease the air pollution index from current 0.61 to 0.10 in 2010, with a sharp drop of 0.50 or so.

### 3.2 About economic life quality, hasten the economic growth with high speed and employment



On the one hand, the future economic growth should be at a high speed. Since 1992, Shanghai has been keeping a two-digit growth rate, which has doubled twice the GDP per capita to be in the neighborhood of \$5,000, close to the average level (\$4900) of medium-income region, calculated in World Bank Development Report 2001. Compared with some target cities of Shanghai's modernization of life quality, however, the economic growth is still insufficient. For example, judging from the economic power, the GDP of some world cities like Tokyo and New Yorker is larger than that of many countries, and thus cities of this kind can come into the first 20 in the world. As to Shanghai, its GDP is no more than one-tenth of Tokyo's; judging from the comparative strength, the GDP of Shanghai is only 5.09% of the country's total, whereas a world city occupies more than 15%. So in Shanghai's development facing 21<sup>st</sup> century, especially in the coming 10 years, if the mode of economic growth can be shifted from investment driven to innovation driven, and the growth rate keeps 2-3 per cent larger than the country's average, then around 2010, Shanghai's GDP per capita will be able to double once again to be \$10,000 or so, and leap to the level of high-income region by World Bank. Accordingly, a preferable material foundation is laid for Shanghai's modernization of life quality. And Shanghai will become a pioneer in the basic modernization of the whole country in the middle of this century.

On the other hand, the future economic growth demands high employment. By means of high employment, Shanghai should make the rank and file have the chance to lead a decent life. German Hanoverian 2000 World Expo created 100 thousand employment positions. Shanghai World Expo ought to offer many times more working opportunities. By the fair and exhibition economy which World Expo triggers, a magnitude of working opportunities are supposed to be created in the industries of travel, hotel, dining, traffic, communications, advertising, retailing, building decoration, city maintenance, etc. Government should undergird employment training so that the labor can make smooth transition in different industries and professions or even métiers.

### 3.3 About healthy life quality, set up a healthy city with every citizen enjoying hygiene and health

About healthy life quality, Shanghai needs to implement the strategy of healthy city to march forward on the basis of already high average life expectation. As what World Health Organization points out, a healthy city means a developing entity, in which human health is the focus of city planning, city building and management, and in which healthy life and work are guaranteed, and in which the healthy public, healthy environment and healthy society become an organic combination demanded in the development of human society.

According to the requirements of the WHO, Shanghai, with the concept of a healthy city in mind, should take action in the following fields: to establish and perfect the three level health promotion committee of the city, the district and the

street; to give full play to the street office to develop community-based health promotion; to consummate the street health service system to ensure everybody of hygiene and health; to deepen health education and promote the health value, advocate forcefully healthy behaviors; to establish and perfect the long-term information management system.

#### 3.4 About educational life quality, increase the enrollment of higher education substantially

In the education index, higher education has a direct influence on Shanghai's education. In 2000, a resident in Shanghai received 9.5 years of education averagely, a gap of 3.6 years from America, 3 years from Japan. In other words, the average education a resident in Shanghai receives is Grade One of high school, while the counterpart in America and Japan is Grade One of university. So Shanghai should implement learning-city strategy to specially increase the enrollment of higher education, and consequently advance the education index effectively.

Firstly, the supply of Shanghai's higher education should be expanded. In the coming 5-7 years, which is before 2010, the scale of Shanghai's liberal education should be doubled to be 800 thousand. For this purpose, concerted efforts should be made to boost supply: for example, we can attract famous universities, which are attached to central departments, to open branch universities; we can cooperate with foreign organizations to run schools by attracting trustworthy foreign universities to start branch universities; we can also establish voluntary undergraduate course institutes.

Secondly, reform should be deepened in the enrollment and system of specialty setup. Through transferring to the lower level the overall planning of education, the criteria for higher education examination should make for diversification. Active experiments should be performed in some organizations of higher education to try the system of examination-exempt and independent-examination entrance. It should be widely practiced that diverse course make-ups are established and that a more loose system should be established to allow early and late graduation.

#### 3.5 About environmental life quality, implement the strategy of ecological city meeting universal standards

Firstly in the future development of Shanghai, the same importance should be attached to the environmental resource index as that of the other economic growth indexes like GDP. It ought to be acknowledged that due to the absence of a forceful macro-control index of environmental resource, our modernization has been following the baton of GDP for years. At present, ecological environment has turned into the "short plank problem" of Shanghai's evolution into a modern international metropolis. For instance, in the yearly reports of China's sustainable development by China

Science Academy, Shanghai's economic and social indexes are on the top of the national lists, but its ecological environment index always stays in the 2<sup>nd</sup> or 3<sup>rd</sup> echelon. Therefore, in the 21<sup>st</sup> century's blueprint of development, an index system, which emphasizes both economic growth and environmental resource, should be designed and set up. Some ecological environment indexes which are compared internationally should be preferably weighed. They are, for instance, the average use of water as one of the resource-control indexes and average life rubbish produce as one of the environment-control indexes.

Secondly, we should heighten the current contents and their benchmarks of the environmental resource indexes from the perspective of improving the overall competition of Shanghai as a metropolis. Apart from the environmental resource index, which enjoys a lower position in the system of modernization objectives, we have to admit that the current ecological environment indexes, when compared with the requirements of a modern international metropolis, are still far from being perfect and not demanding. One reason is that the benchmarks of some environmental resource indexes lag far behind the international standards. One example is the yearly average density of the total suspending grains in the air. According to China's quality standards for the atmosphere environment, Shanghai can meet the acceptable standards for urban living area. But it falls before the international standards stipulated by WHO. That is to say, the city whose air is clean according to our standards, doesn't enjoy clean air in terms of the international ones. Los Angeles, although regarded as "the most filthy city" of America in 1966, had its average air pollution density falling in the acceptable scope of WHO. Another reason is some key indexes, which represent the modernization of environmental resource, are not included. For example, there exist apparent indexes to the total and growth of economy. Yet we are still short of scientific control objectives of the average rubbish discharge and increase, which growingly affect urban life quality. Another example is the average discharge of CO<sub>2</sub>. In recent years, Shanghai's has been higher than that of our country and the world. With the entry into WTO and increasing stress of less foreign discharge, we are compelled to supplement relevant control targets.

Thirdly, the environmental resource indexes can be used to evaluate the work of cadres at all levels, especially the leaders. On the one hand, we should integrate the economic growth indexes and the environmental resource indexes, enrich and enhance the contents of cadre evaluation. In this way, leaders at all levels can value and treat the relationship of economy, resources and environment well. Hence, they can rectify those behaviors for short-sighted and local economic benefits at the cost of long-term and overall development. On the other hand, we should assure the social public of their knowing right. By understanding the planning, implementation, and completion of related indexes, the general people participate in the building of modernization featured by tuneful economy and environment.

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