

Shanghai Municipal Environment APL Project Phase I

Resettlement Action Plan
for Shanghai Sewage Project Phase III

Option II

Shanghai Water Environment Construction Co. Ltd.

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**Name List of the Participants of the RAP
for Shanghai Sewage Treatment Project Phase III**

People in charge: Huang,Jianpin Xu, Yuejiang Dai, Yirong

Report Drafters: Dai, Yirong Zhang, Zhiqiang

Participants: Huang, Jianpin Xu, Yuejiang Dai, Yirong
Zhang, Zhiqiang Zhuang, Yili Xingongfu

1. Description of the Project

1.1 Project Background

With the deepening of the reform and opening-up, Shanghai is developing very fast on its way to becoming an international economic, financial and trade center in the Far East. To make its economy more sustainable and more competitive, Shanghai is reinforcing its construction. In infrastructure constructions particularly, Shanghai is investing huge amount of money to make the city progress fast every day. In addition to continuously constructing its road system and electricity infrastructures, Shanghai is making great effort in improving its ecological environment. A benign ecological environment is the prerequisite of the healthy development of economy as well as the basic condition for guaranteeing the healthy livelihood of the resident. Shanghai has always adopted high standards and strict requirements in constructing ecological environment in its efforts to improve people's livelihood and living standard and to fundamentally sustain the vitality of Shanghai.

In this regard, Shanghai municipal government has gradually increased its investment on the environment projects since mid 1980s. In particular, the government invested hugely on rehabilitating the polluted waters in Shanghai. In recent years, Shanghai has constructed many large-scaled sewage treatment projects, e.g, the Sewage Project Phase I, which was completed in 1993. The project mainly resolved the solutions for the integrated sewages and living sewages in such districts and areas as Putuo, Changning, Jin'an, Zhabei, (part of) Huangpu, (part of) Hongkou, Yangpu and Waigaoqiao of Pudong area. The project serves an area of over 100 squ. km. and a population of over 2 million. Shortly after that, Shanghai completed such major infrastructures as the collective pipes, pre-treatment factory, and drainage mouth in Pudong Area under the Sewage Project Phase II. These facilities mainly provide solutions to the sewages in Xuhui and Luwan of Puxi, and part of the area in Pudong south of Zhaojiagou and north of Chuanyang Creek. These facilities serve an area of 2 million squ.km. and a population of 2.8 million. The above two projects intercept the sewage from many pollution sources along both sides of Suzhou Creek and Huangpu River, and thus improve, to certain degree, the water quality in the upper reaches of the creek and the river. In addition, in 1998, Shanghai municipal government started Suzhou Creek Rehabilitation Project Phase I. A lot of sub-projects under the rehabilitation project are under intense construction in order to change the water pollution status in Suzhou Creek.

However, seen from the development of the constructions in Shanghai in recent years, because urbanized area continues to expand, the volume of urban sewage increases, too. The burden for treating sewages is increasingly heavy. Therefore, the

environmental treatment is still behind the step of the municipal construction. The water pollution status in Shanghai has not been fundamentally changed. There is still a large volume of sewage directly drained, without any treatment or pipe interception, into Huangpu River, Suzhou Creek and their tributaries. Water pollution is still one of the most outstanding problems blocking the development of Shanghai in the future.

To step up to a higher level, to make the sewage treatment work in Shanghai more coherent, and to further improve the ecological environment in Shanghai, Shanghai municipal government put forward “Shanghai Sewage Project Phase III” according to the municipal plan.

Shanghai Sewage Project Phase III (hereinafter “Phase III”) is another major municipal construction after Sewage Project Phase I and Phase II. Phase III (hereinafter “Phase I” and “Phase II”) is a composite of the overall plan of the municipal government on treating sewage as well as a key strategic measure to protect the water environment in Shanghai. If Phase I and Phase II mainly dispose the pollution of water in the upper reaches of Huangpu River and Suzhou Creek, Phase III will dispose the pollution in the middle and lower reaches of Huangpu River and Suzhou Creek. Along both sides of the six tributaries (i.e. Pengyuepu, Zhenrugang, Mudugang, Shenjigang, Xinjingang, and Huacaogang) of the middle and lower reaches of Suzhou Creek, enormous sewage directly is drained into the river course without any treatment. The sewage flows into Suzhou Creek from the tributaries and makes these tributaries the biggest sources of pollution for Suzhou Creek. Now, over 2 million m³/d of sewage was collected through the sewage facilities of Phase I and Phase II for pre-treatment before the sewage is drained into Changjiang River, or the sewage may be drained into the waters in Shanghai after it is treated through the sewage treatment factory. However, still over 2 million m³/d of untreated sewage and wastewater were drained into Huangpu River, Suzhou Creek and their tributaries.

Phase III mainly disposes the sewage left unsolved by The Tributaries of Suzhou Creek Sewage Interception Project (North Section), the Sewage Interception Project at Hongkougang and Yangpugang of Phase II, and Phase I north of Zhaojiagou in Pudong New Area. In addition, according to the sewage drainage plan, to limit the drainage of sewage at Shidongkou, the sewage south of Yunzaobang, east of the west main line, west of Yixian Road and north of Wenshui Road, which was designed to be drained through the west line, is also included into the service scope of this project.

The implementation of Phase III will considerably improve the quality of the water in Huangpu River, and Suzhou Creek, as well as its tributaries Hongkougang and Yangpugang. The implementation of the project will also improve the rehabilitation degrees of the water south of Yunzaobang in Puxi and north of Zhaojiagou in Pudong.

According to Phase III, a sewage treatment factory --- Zhuyuan Sewage Treatment Factory (temporary name) will be constructed in Zhuyuan Village of Gaodong Town

in Pudong New Area. In addition, five intermediary pump stations will be set up. They are Minzhu Pump Station, Zhangmiao Pump Station, Wenshuilu Intermediate Pump Station, Jiamusi Intermediate Pump Station, and Zhouhai Road Intermediary Pump Station. Also, some sewage collective pipes will be established (See the following table for details).

Phase III was designed with respect to the overall development plan of Shanghai and mainly targeted on the backward status of the sewage collecting system in Baoshan, Hongkou, and Yangpu of Shanghai, including providing solution for the sewage north of Zhaojiagou of Pudong New Area. Through the project construction, the unruly situations of sewage collection in these areas will be greatly improved so as to enhance the production development in these areas and to improve the living environment and livelihood of the residents in these areas. Meanwhile, the project construction complies with the overall requirements specified in “the Professional Plan on the Sewage Drainage System in Shanghai (2020)”. In that respect, Shanghai Water Environment Construction Co. Ltd. entrusted in April 2001 Shanghai Municipal Construction Design Institute and Shanghai Municipal Project Design Research Institute to mutually compile *the Feasibility Study Report on Shanghai Sewage Treatment Project Phase III*. Because the feasibility study report specified several options for the project, according to the optimization principle, this RAP is compiled according to the design of Option II. The report was appraised in January 2001 by Shanghai Investment Consulting Company. The Municipal Planning Commission replied in January 2002 and approved the construction of Phase III.

1.2 Impact Scope

Phase III will include the construction of a sewage treatment factory, i.e. Shanghai Zhuyuan No. Two Sewage Treatment Factory (temporary name). The factory is situated in Zhuyuan Village of Gaodong Town in Pudong New Area, south of Shanghai Zhuyuan No. One Sewage Treatment Factory (to be constructed). Meanwhile, 5 intermediary pump stations will be built up. Zhangmiao Pump Station is located in the land belonging to Xin'er Village of Songnan Town east of South Jiangyang Road and north of Tongnan Road in Baoshan District. Minzhu Pump Station is located in the land belonging to Jiangyang Village of Gaojing Town in Baoshan District, south of 128 Jinian Road and west of West Sitang. Wenshui Intermediate Pump Station is situated north of Wenshui Road and west of Yuexiu Road in Yangjialou residential area belonging to Yuexiu Neighborhood Committee of Daning Street in Zhabei District. Jiamusi Intermediate Pump Station is located in the land belonging to No. 11 Mobile Team of Yangpu Mobile Transport Company and near some residential housing west of Jungong Road and south of Jiamusi Road. Zhouhai Road Intermediary Pump Station lies in Gaoxi Village of Gaohang Town in Pudong New Area. The collective pipe of Phase III runs along South Jiangyang Road from Yunzaobang cross Wenshui Road to Guanglinsi Road and finally to the pipe of

Phase I. The other collective pipe goes along Songhuajiang Road from Shuangyang Road to Jungong Road, along Jungong Road from Dinghaigang Road to Nenjiang Road, along Nenjiang Road eastward cross Huangpu River, along the planned Zhouhai Road to the planned Zhangyang Road, along the planned Zhangyang Road northward to Hangjin Road, along Hangjin Road eastward to Zhuyuan No. Two Sewage Treatment Factory. In addition, some auxiliary sewage pipes will be installed to connect the collective pipes.

In addition, rain and sewage collection systems are going to be constructed in Baoshan and Yangpu Districts of Puxi. In Baoshan District, 4 sewage pump stations and 14 rain pump stations will be newly set up in Baoshan District. Meanwhile, some old pump stations in Yangpu District will be reconstructed to make the sewage drained into the pipes of Phase III.

The scope of Puxi collection system includes the collection system in Baoshan District (south of Yunzaobang area), the dry-season sewage interception project in Yangpugang area, and the service area of the five drainage systems east of Yangpugang, i.e. Changbai, Kongjiang, Dadinghai, Zhoujiazui, and Fuxindao.

Baoshan District

The collection system in Baoshan District mainly serves the area south of Yunzaobang in Baoshan District (including some area in Zhabei District uncovered by Phase I and the Tributaries of Suzhou Creek Sewage Interception Project). The system serves a total population of 551,100 people and an area of 55.56 km².

The service scope is: north to Yunzaobang, east to Tongji Road and Yixian Road, southeast to Songhu branch line of Baoshan District, south to 300 m. south of Changzhong Road, Beichangbang, Echanpu, Hu-Jia highway, and west to the outer ring. The scope does not include the neighborhood of Dachang Airport (south to Changzhong Road, west to Hutai Road, Ximipu, north to Yunzaobang, and east to the protective river of the airport) and the service scope of Sitang Sewage Factory (south to West Changjiang Road, west to Gonghexin Road, north to Yunzaobang, and east to Xisitang).

The service scope of the project includes the neighborhoods of Qilian, Nanda Road (including some land of Zhabei District), Zhennan-(north) Dachang, Miaohang, Gongkang, Minzhu, Zhangmiao, Songnan, Wusong Industrial Park (south of Yunzaobang) and the Linfen Garden of Zhabei District.

Within the service scope in Baoshan District there is Shidongkou Sewage Drainage System (the west section sewage collective pipe has already been set up, and Shidongkou Sewage Factory is under construction and will be finished in 2003). Some sewage collected by the collection system may first access into the west main

line and then be treated by Shidongkou Sewage Treatment Factory. The rest sewage may access into the drainage system of Phase I.

The total volume of sewage collected by the system amounts to 246,800 m³/d. Sewage pipes of 124.32 km long will be constructed.

The flow-separation mechanism applies to most of the scope of the sewage collection system. In order to avoid repeated earth digging and waste of investment attributable to separate constructions of the sewage collection system and the rain system, both systems will be constructed at the same time in Baoshan District. Altogether 27 rain systems, 136.45-km-long rain pipe, and 14 rain pump stations will be involved in this area.

Hongkou and Yangpu Districts

The collection system in Hongkou and Yangpu Districts mainly collects the sewage unsolved by Hongkougang and Yangpugang interception projects. The service scope of the system covers the area east of Yangpugang. The project serves an area of 11.37 km² and a population of 307,000 people. The project is designed to dispose more than 200,000 m³/d volume of sewage, which includes the sewage from Changbai, Kongjiang, Dadinghai, Zhoujiazui and Fuxin Island drainage systems.

Under the project will be established a collective pipe along Zhengben Road-Guoding Road-Huangxin Road and a pipe on Dunhua Road (Old Dunhua Pump Station-Songhuajiang Road).

Pudong New Area

In Pudong Area a sewage collection system, ten sewage intermediate pump stations (two of which have already been constructed) will be constructed. The impact scope of the collection system project in Pudong mainly includes the planned added urban area outside the outer ring and some area inside the outer ring. Below is the identified service scope.

1. Outside the outer ring: ship construction base, port area, Caolu area (Caolu, Gulu, Gonglu, the industrial park), Tangzhen Area (Tangzhen, Wangggang, industrial park), Heqin Area (Heqin, Cailu), Huaxia Commercial Area, Jichang Town, and Huanglou.
2. Inside the outer ring: Gaoqiao Industrial Park (Linqiao), Gaodong area (Gaodong, Yangyuan, industrial park), Donggou, Sunqiao (Sunqiao, industrial park), west of Jiyang Road, and Sanlin.

The project serves a total area of 52.61 km² and disposes a total sewage volume of

about 240,000m³/d. This volume, plus the already disposed sewage volume of 1.3 million m³/d, amounts to 1.54 million m³/d, which accounts for 92% of the total planned treated sewage volume in Pudong New Area.

The service scope of Pudong Collection System Project covers 8 towns: Jichang, Tangzhen, Caolu, Heqin, Gaohang, Gaodong, Sanlin, Sunqiao. The rest of the scope covers the existing towns or land. Except the industrial park, most of the covered area is residential area. The land west of Jiyang Road is a recreational area subjected on large green land.

Construction of Shanghai Sewage Phase III will directly affect 6 districts (Baoshan, Yangpu, Zhabei, Hongkou, Putuo and Pudong New Area), 2 residential districts (Daning, Changbai), 14 towns (Songnan, Gaojin, Dachang, Taopu, Gucun, Gaoqiao, Gaohang, Gaodong, Caolu, Tangzhen, Sunqiao, Chuansha, Jichang, Sanlin), more than 10 villages (Xin'er Village, Xin'san Village, Shanegli Village, Gaoxi Village, Zhandou Village, Gaonan Village, Zhuyuan Village, Zhangjiazhai Village, Xinhua Village, Huandong Village, Hongyi Village, Jikou Village, Duimian Village, Jielong Village, etc.) and some residents, enterprises, green land and infrastructures, etc..

Please see Appendix 1 for the location of the above projects.

1.3 Socio-Economic Impacts

The project affected items mainly include the municipal forestation facilities along the pipes of Phase III, some affected underground pipes, and many buildings that will be dismantled because of the project. Some affected enterprises were newly established and have just started business. When they were informed that they would be relocated because the land was designed to build pump stations, the enterprise managements were rather surprised and embarrassed. Because relocation is a complicated assignment and the business has just started, the relocation will have a significant impact on these enterprises. How to make the enterprise operation unaffected by relocation is the most important task for them. They particularly need to be consulted with in advance and to be adequately compensated and relocated. Due to the extensive scope of impact of the project, many enterprises will be affected. Other affected enterprises have more or less the above relocation problems.

However, everything has two faces. According to our experiences in relocation for municipal works in Shanghai, not all project construction would have negative impact on the relocated enterprise. For instance, Zhangmiao Pump Station, which will be constructed for the project, is situated in Xin'er Village of Songnan Town in Baoshan District. The land needed by the pump station happens to be occupied by a village owned enterprise. Now the enterprise is at the edge of stopping production and changing business direction. Besides several guards, there are few people in the

factory. The enterprise management is worrying about the solution for the current status. As this site is selected for the project construction, the enterprise becomes hopeful for a new birth from the current embarrassing situations. Because the enterprise will get compensation for relocation, it will get the essential fund for adjusting its operation and thus regain the business vitality and retain the employment. Due to the large scale of the project, it will affect many enterprises. Many enterprises are having similar situations as described above. These enterprises will all have chance to regain their births through relocation. That will help in promoting development of the production in the area as well as in maintaining social stability.

In addition, the project implementation will play an active role in collecting rain and sewage in northwest, north, and northeast of Shanghai. The project will make the water quality in these areas considerably improved and will thus improve the living environment and livelihood of the local residents. Meanwhile, the project implementation will greatly improve the quality of the water in the lower reaches of Huangpu River and Suzhou Creek. All these will bring significant benefits to the urban environmental sanitation and people's health in Shanghai.

1.4 Measures Taken to Minimize Negative Impacts

To implement the WB principles on minimizing the scope of project affected persons (PAPs), the project host, after several surveys, researches and repeated discussions, decides to take the following measures to minimize the scope of PAPs and to lighten or to eliminate negative impacts.

- (1) Several schemes were designed. After comparing and evaluating advantages and disadvantages, the design is optimized. It is decided to use jack pipe in the downtown area of dense population in order to avoid large-scaled earth digging and thus to reduce immigration.
- (2) Before immigration, staffs were organized to visit the spot to see which buildings could be saved or partly relocated.
- (3) For those buildings to be temporarily occupied by the project, the owner was noticed to empty the buildings before dismantle, or temporary buildings were set up in the owner's scope of land. After the project is completed, the old building owner will rebuild the buildings at the same site.
- (4) For losses incurred by the resettlement, adequate compensation that is calculated according to the replacement price will be paid to the residents so as to minimize the negative impact of the resettlement.
- (5) The resettlement area is chosen to be close to the original residential area. By doing so, the residents will keep connection with the old residential area on the one hand and avoid increasing the distance from the resettlement area to the working place of the affected residents.
- (6) For the affected enterprises, notice will be sent to them in advance for them to

arrange relocation place. Their loss will be duly compensated. It is endeavored to shorten the operation interruption period and to arrange employees' work through consultation with the enterprise owners.

- (7) During the process of resettlement, relevant parties were requested to give help to the affected residents and enterprises, and to provide convenience for them, in order to enhance the smooth conduct of the resettlement and to lighten their burden and loss.

1.5 Ownership & Organization of the Project

Shanghai Water Environment Construction Co. Ltd. (SWECC) is responsible for the concrete project implementation. The preliminary-stage engineering department of the company is responsible for the resettlement and relevant coordination. Assisted by various levels of administration, the local government will be responsible for the resettlement implementation.

During the process of project implementation, a lot of community work on the affected population will need the support of local government. Therefore, the local district government, as well as its subordinate offices, neighborhoods, and village committees are also the associates for the project implementation.

1.6 Schedule of the Project and the Resettlement

The whole construction period of the project will be 3 years, starting from March 2003 and ending in March 2006. Accordingly, the period for the resettlement implementation is planned to be from September 2002 to March 2003. See 15.1 for details of the implementation procedures.

1.7 Principles & Objectives for Compiling the RAP

This RAP was planned by SWECC. The RAP is prepared in accordance with the various laws and regulations of the country and the locality as well as the World Bank Operative Principles on Involuntary Resettlement (OP4.12). The objective is to seek the best option to ensure that the project affected residents, enterprises, infrastructures, and public facilities will be properly resettled or rebuilt, and to ensure that the livelihood of the PAPs and the business level of the affected enterprises will be maintained or improved.

In order to realize the above principles and objectives, we endeavor to follow the

following principles while compiling the RAP.

- 1) To repeatedly revise and perfect the RAP to minimize the scope of the impact, to substitute compulsive resettlement measures with other measures in order to minimize resettlement.
- 2) Where involuntary resettlement is unavoidable, resettlement activities should be conceived and executed as sustainable development program, providing sufficient investment resources. It should be guaranteed that all PAPs receive compensation for their total loss and are properly resettled and rehabilitated so that they can share the benefits of the project. Meanwhile, compensation should be paid for their temporary hardships, and affected properties according to replacement price. Resettled people should be assisted in their efforts to improve their livelihoods and be financed in their activities in improving their living environments, or at least to restore them, in real terms, to pre-resettlement levels or to levels prevailing prior to beginning of project implementation, whichever is higher.
- 3) To perfect the necessary equipment of the new housing, and make the resettlement community equipped with complete facilities, convenient transport, comfortable livelihood and fine environment.
- 4) To enable the resettled people to get used to the host community in a short period so as to stabilize their life.
- 5) To provide the vulnerable groups with preferential policies in housing, employment, etc..
- 6) To keep the scope and function of the buildings of the affected enterprises, to restore to the original business environment as far as possible, and to compensate for their losses from operation interruption and temporary change of business environment.
- 7) To properly compensate the collective-owned land for all its loss and to pay the compensation to the community for no other use but developing the collective economy;
- 8) The implementation of the resettlement will be monitored and evaluated by the external monitor. The representatives of the PAPs will take part in the decision-making of the resettlement; special institutions will receive complaints from the PAPs.
- 9) During the process of the project implementing, if the RAP has significant change due to change of the design, etc., the RAP will be revised and submitted to the World Bank for approval; significant changes in the number of affected objects, in the compensation policy or in compensation rates will be submitted to the World Bank first and then implemented after approval. Minor changes during implementation of the RAP will be reflected in the internal and the external monitoring report.

2. Project Impact

2.1 Scope of the Acquired Land

Construction of Phase III will include not only installing pipes of long distance but building large-scaled sewage treatment factory and several intermediary pump stations. Accordingly, some land will be acquired or borrowed. The situations of land acquisition and borrowing are categorized into the following aspects.

1. To acquire Land

- (1) Sewage treatment factory: Shanghai Zhuyuan No. Two Sewage Treatment Factory (temporary name);
- (2) Intermediary pump stations: Wenshuilu Intermediary Pump Station, Zhangmiao Pump Station, Minzhu Pump Station, Jiamusi Intermediary Pump Station, Zhouhai Road Intermediary Pump Station and the rain and sewage pump stations incorporated in the collection system of Puxi and that of Pudong;
- (3) Pipes installed along: South Jiangyang Road (from West Changjiang Road to Changzhong Road), Guangyue Road (from Changzhong Road by Kuizhao Road cross Yujingpu to Wenshui Road), Wenshui Road (from Gaoping Road to Liangcheng Road), Liangcheng Road (from Wenshui Road to Guanglingsi Road), Xiangying Road (from Wujiaochang to Jungong Road), Songhuajiang Road (from Shuangyang Road to Jungong Road), Jungong Road (from Nenjiang Road by Liping Road to Dinghaigang Road), Zhengben Road (from Guocui Road to North Zhongshan'er Road), Guocui Road (from Zhengben Road to Huangxin Road), Huangxin Road (from Guocui Road to Wujiaochang), *Nenjiang Road (from Jungong Road to the riverside of Huangpu River in Puxi), the planned Zhouhai Road (from the riverside of Huangpu River to the planned Zhangyang Road), *the planned Zhangyang Road (from the planned Zhouhai Road to Hangjin Road), Hangjin Road (from the planned Zhangyang Road to Huandong First Avenue of Zhuyuan Village in Gaodong Town), and the pipes included in the collection systems of Puxi and Pudong.

2. To borrow Land: the land that will be used during the project construction.

The total area of land to be acquired for the project is: 781761.9 squ.m., equaling with 1172.637mu (of which 232288.5 squ.m., equaling with 348.431 mu is collective arable land, and 549469.4 squ.m. equaling with 824.2 mu is non-arable land);

Total borrowed land is: 3581617.9 squ.m., equaling with 5372.4 mu.
(1mu = 666.67 squ.m.)

2.2 Impact of Land Acquisition

The resettlement scope of the project will be decided according to the needs of the project construction. Following is the impact of land acquisition for the project.

2.2.1 Affected Land

The land to be acquired or borrowed for the project is listed as follows.

Sheet 2.1a Summary Sheet of the Land to Be Acquired or Borrowed for the Project
(Acquired or Borrowed Land for the Construction of Intermediary Pump Station and
Collective Pipes)

Project Name	Address	Area of used land(m ²)	
		Acquired land	Borrowed land*
Shanghai Zhuyuan No. Two Sewage Treatment Factory	Zhuyuan Village of Gaodong Town in Pudong New Area	450293.6 (675.437 mu, of which 275.031 mu is arable land)	0
Zhouhai Road Intermediary Pump Station	North of the planned Zhouhai Road and south of Hangnan Road (in Gaoxi Village of Gaohang Town)	14000 (21 mu, of which 12 mu is arable land)	
Nenjiang Road Cross-River Inverted Well	Puxi Section of Nenjiang Road (the existing Nenjiang Road Cross-River Wheel Dock)	2000 (2 mu)	1000 (1.5 mu)
Wenshuilu Intermediary Pump Station	North of Wenshui road and west of Yuexiu Road	6000 (9mu)	0
Jiamusi Intermediary Pump Station	No. 2 Jiamusi Road (near Jungong Road)	4000 (6 mu)	3333 (5 mu)
Zhangmiao Intermediary Pump Station	East of South Jiangyang Road and north of Tongnan Road (in the neighborhood of Songnanxin'er Community)	4000 (6 mu)	1333 (2 mu)
Minzhu Pump Station(a rain pump station and a sewage pump station)	South of 128 Jinian Road and west of Xisitang	12000 (18 mu)	0

<p>Laying pipes by slotting or jack piping</p> <p>*Installing pipes by slotting will be used in constructing these sections.</p>	<p>1*South Jiangyang Road (from West Changjiang Road to Changzhong Road);</p> <p>2. Guangyue Road (from Changzhong Road by Kuizhao Road cross Yujin Road to Wenshui Road);</p> <p>3. Wenshui Road (from Gaoping Road to Liangcheng Road);</p> <p>4. Liangcheng Road (from Wenshui Road to Guanglinsi Road);</p> <p>5. Xiangyin Road (from Wujiaochang to Jungong Road);</p> <p>6. Songhuajiang Road (from Shuangyang Road to Jungong Road);</p> <p>7. Jungong Road (from Nenjiang Road by Liping Road to Dinghaigang Road);</p> <p>8. Zhengben Road (from Guocui Road to North Zhongshan'er Road);</p> <p>9. Guocui Road (from Zhengben Road to Huangxin Road);</p> <p>10. Huangxin Road (from Guocui Road to Wujiaochang);</p> <p>11. Nenjiang Road (from Jungong Road to the riverside of Huangpu River in Puxi);</p> <p>12. *the planned Zhouhai Road (from the riverside of Huangpu River in Pudong to the planned Zhangyang Road);</p> <p>13. *the planned Zhangyang Road (from the planned Zhouhai Road to Hangjin Road);</p> <p>14. Hangjin Road (from the planned Zhangyang Road to Huangdong First Avenue at Zhuyuan Village of Gaodong Town)</p>	<p>To acquire land for jack pipe wells, air holes, and the test wells:</p> <p>86667.1</p> <p>(230 mu)</p>	<p>To borrow land for installing pipes by slotting and jack pipe well, etc.:</p> <p>1666675</p> <p>(2500 mu)</p>
<p>Total</p>		<p>644961.22</p> <p>(totaling</p> <p>967.437mu, of</p> <p>which 287.031</p> <p>mu is arable</p> <p>land and</p> <p>680.4 mu is</p> <p>non-arable</p> <p>land)</p>	<p>1672341.69</p> <p>(2508.5 mu)</p>

To acquire land the rain pump station of the collection system in Baoshan District of Puxi: **56267 squ.m., totaling 84.4 mu**, of which the area of arable land is 23.85 mu, that of non-arable land is 60.56 mu (that of the enterprise land is 44 mu)

To borrow land:

For the pipes in Baoshan District: $4000m \cdot 20m = 80000 \text{ squ.m.}$, equaling 120mu;

For the pipes in Yangpu District: $9540m \cdot 20m = 190800 \text{ squ.m.}$, equaling 286mu.

Big space for temporary use of the project: $2000 \text{ squ.m.} \cdot 6 = 2006 \text{ squ.m.}$,

equaling 3 mu.

Remarks: 20 m. width is used to estimate the area of the borrowed land. The method of jack piping, complemented with the method of installation by slotting, will be employed in constructing the collection system in Yangpu District of Puxi. Therefore, land will mainly be borrowed for the construction.

Sheet 2.1b Summary Sheet of the Land to Be Acquired or Borrowed for the Project
(Acquired Land for the Construction of the Collection System in Puxi)

(1) Area of the land occupied for constructing rain pump stations:

To acquire land: 56267 squ.m., totaling 84.4 mu.

No.	Name of the area	Name of the pump station	Occupied area (m ²)	Place
1	Qilian Area	Xinkaihe	4800	South of Yunzaobang Brook and west of Xinkaihe
2		Jinquijiazhou	4800	South of Yunzaobang Brook and west of Nanchen Road
3		Shanghai University	3300	South of Taopu Brook and south of Fengxiang Road
4		Qianxi	4680	East of Taopu Brook and north of Fengxiang Road
5	Nanda Road Area	Nanda	3000	East of Guihuasan Road and north of Henanbang Brook
6	Miaohang Area	Miaohang	3300	East of Kangning Road and south of Yunzaobang Brook
7	Dachang Area	Dachang	3080	East of the intersection of Zoumatang Brook and Ximipu Brook
8		Miaopeng	3620	West of Dongjiaoing Brook
9	Zhennan-Dachan Area	Zhennan (north)	3300	West of Nanchen Road and north of Luogangxiang
10		Zhenda	4880	South of Zoumatang Brook and east of Hutai Road
11	Gongkang Area	Gongkang	4760	Southeast of Dongjiaoing and Yunzaobang Brook
12	Linfen Garden Area	Linfen Garden	2870	East of Xisitang Brook and south of Fenxi Road
13	Songnan Area	Songnan	5080	South of Changjiang Road and west of Nansitang
14	Wusong Industrial Park	Jiangyangnan	4800	West of South Jiangyang Road and south of Yunzaobang Brook
	Total	14	56267	

(2) Summary Sheet of the Land to Be Acquired from the Affected Production Team

Category	Name of the pump station	Owner Village	Area of the Land (mu)			Remarks
			Arable Land	Non-arable Land	Enterprise Land	
Rain pump station in Pudong Collection System	Dachang	Zhabei District			1510.8	Already acquired by a real estate company
	Zhangmiao	Xin No.2 Village of Songnan Town			3580	Enterprise land
	Xinkaihe	Feng Village of Dachang Town	4800			There are 2 households in the land.
	Jinjiu-Jiazhou	Baiyang Village of Gucun Town	4800			Brick Storing Land
	Shanghai University	Lianxi Village of Dachang Town			3300	An aggregate shop of fitting-up materials has just been opened
	Qianxi	Belonging to Qianxi Real Estate Company			4680	Commercial housings are being set up.
	Nanda	Nanda Village of Dachang Town	3000			
	Miaohang	Changbei Village of Miaohang Town		3300		Part of the land has been acquired by Suzhou Creek Construction Company and needs to be moved.

	Dachang	Belonging to the 91321 Army			3080	Belonging to the army
	Miaopeng	Xinfu Village of Pengpu Town			3620	Enterprise land
	Zhennan (north)	Jinguang Village of Taopu Town in Putuo District	3300			Mushroom sheds and some enterprise land
	Zhenda	Changnan Village of Dachang Town in Baoshan District		4880		Residential housing and some enterprise buildings
	Gongkang	Shanghai Fruit & Food Co., Ltd.			4760	State-owned land
	Linfen Garden	Shengli Village of Gaojin Town in Baoshan District		2870		The land has already been acquired by Pengpu Neighborhood Phase 10 to build Linfen Community
	Songnan	Belonging to Songnan Real Estate Development Company			5080	State-owned land, on which there are 2 residential buildings
	Jiangyangnan	Belonging to Huayi Group Company			4800	State-owned land
Total			15900 (23.85mu)	11050 (16.5mu)	29320 (44mu)	

Table 2.1c Summary Sheet of the Land to Be Acquired from the Affected Production Team

Name of the project	Place	Area of the land (m ²)	
		Acquired land	Borrowed land*
P1 Pump Station (temporarily called Zhouhailu Pump Station)	East of Huangdong First Avenue (Zhangjiazha Village of Gaodong Town in Pudong)	4133.4 (6.2 mu)	1340 (2 mu)
P2 Pump Station (temporarily called Jinhalu Pump Station)	South of Jinhai Road and west of the planned Huadong Avenue (The Seventh Team of Xinhua Village of Caolu Town in Pudong)	4133.4 (6.2 mu)	1340 (2 mu)
P2 Pump Station (temporarily called Hongyicun Pump Station)	West of the planned Huadong Road and north of Longdong Avenue (Hongyi Village of Tang Town in Pudong)	4133.4 (5.2 mu)	1340 (2 mu)
P4 Pump Station (temporarily called Binzhoulu Pump Station)	South of the planned Binzhou Road and west of the planned Huadong Road (Jikou Village of Tang Town in Pudong west of the planned Gutang Road)	5466.7 (8.2 mu of arable land)	1340 (2 mu)
P3 Pump Station (temporarily called Huandong Pump Station)	West of Huandong Second Avenue and south of Mid. Huaxia Road (Wangjia Team of Huandong Village (Sizao Village) of Sunqiao Town in Pudong)	3333.4 (5 mu, of which 2.35 mu is arable land)	1340 (2 mu)
P3' Pump Station (temporarily called Duimiancun Pump Station)	South of East Huaxia Road and 1200m. west of Huadong Road (west of Puyi Garden)	3333.4 (5 mu arable land)	1340 (2 mu)
P6 Pump Station (temporarily called Jielong Pump Station)	South of the planned Wanglou Road and west of the planned Huadong Road (Jielong Village)	4000 (6 mu arable land)	1340 (2 mu)
P7 Pump Station (temporally called Jiyang Pump Station)	North of Huannan First Avenue and east of Jiyang Road	4000 (6 mu)	1340 (2 mu)
P8 Pump Station (temporarily called Gaoqiao Pump Station)	North of Gangcheng Road and west of Jiangdong Road	4000 (6 mu)	1340 (2 mu)
P9 Pump Station (temporarily called Heqin Pump Station)	North of South Huanqin Road and west of East Huanqin Road	5333 (8 mu arable land)	1340 (2 mu)

P10 Pump Station (temporarily called Jichang (Pump Station))	North of Chenyang Road and west of Yuandong Avenue	34667 (5.2 亩)	1340 (2 亩)
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Installing pipes by slotting	<ol style="list-style-type: none"> 1. Wuzhou Avenue (Donggou -Huandong First Avenue) ; 2. Wuzhou Avenue (Pudong Canal-Huandong First Avenue ; 3. Huadong Road (Yangjiagou-Jufeng Road, Jufeng Road-Shangfeng Road) ; 4. Shangfeng Road (Huadong Road-Chuansha Road) ; 5. Binzhou Road (Tanglu Road-Huadong Road) ; 6. Mid. Huaxia Road (Shenjiang Road-Huadong Road) ; 7. Chuanzhou Highway (Jinmin Road-Jongxin Road) ; 8. Huanglou Road (Yongxin Road -Huandong Road) ; 9. Changqin Road (West Huaxia Road-Linzha Road) ; 10. Sanlin Road (Changqin Road -Jiyang Road) ; 11. Jiyang Road (Changqin Road-Jiyang Road) ; 12. Jiangdong Road (Caogao Branch Road-Gangcheng Road) ; 13. South Huanqin Road (West Huanqin Road-Qinhua Road) ; 14. South Huanqin Road (Qinhua Road-Yuandong Avenue) ; 15. Qinhua Road (Qianshao Road-Binshou Road) ;²⁰ 16. Chenyang Road (Linkong Road 	<p>To acquire land for the jack pipe wells, air holes, and test wells, etc..</p> <p>33333.5 (estimated)</p> <p>(about 50 mu)</p>	<p>43046 m.*20 860920 (1291.4 mu)</p>
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Total		80533.7 (120.8 mu, including 37.55 mu arable land and 83.25 mu non-arable land)	1636590.4 (2454.9mu)
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*The area of borrowed land that will incur expense during the process of project construction is also counted in this RAP.

2.2.2 Affected Residential Buildings

According to the optimized design scheme and the on-spot survey, the residential buildings of 1048 households will be affected within the scope of the acquired land of the project. The affected buildings are separately located in Daning Residential District of Zhabei District, Changbai Residential District of Yangpu District, Dachang Town and Songnan Town (Wusong) of Baoshan District, and Zhuyuan Village of Gaodong Town, Zhandou Village and Gaonan Village of Gaohang Town, Sunqiao Town, Caolu Town and Tang Town of Pudong New Area. Most of the affected residential houses are one or two storied buildings of brick-wood structure. A few of the affected houses are of brick-concrete structure. Most of these buildings have poor living conditions and auxiliary facilities. They are part of the simple or dangerous buildings to be reconstructed in Shanghai in the future. Because of the disorderly drainage system, draining is often blocked in the community. Passes inside the community are shallow. Some places are low-lying land so that the rainwater will rise to knees inside the house in raining days. These facts, plus the loose management, make the community environment very poor. The residents also hope to be relocated as early as possible in order to improve the existing living conditions. The property rights of most of the affected housings are owned by the inhabitants.

Table 2.2 Summary Sheet of the Residents Affected by the Project

Item	Location of the affected residents	Residents (household)	Number of people	Remarks (building area)
Shanghai Zhuyuan No. Two Sewage Treatment Factory	No. 6 and No. 7 Teams of Zhuyuan Village in Gaodong Town	297 (rural)	891	53460
Zhouhai Road and Zhangyang Road Slotting	Zhunanzhazhai of Zhandou Village in Gaohang Town	52 (rural)	158	9360
Pipe Installation Projects	Zhuyezhai, Xiyangjiamen, and Nanzhangjiaxiang (Dongyangjiamen) in Gaonan Village in Gaohang Town	92 (rural)	276	16560
Wenshuilu Intermediary Pump Station	Yangjialou of Yuexiu Neighborhood of Daning Residential District in Zhabei District	120	360	8400
Jiamusi Intermediary Pump Station	Changbai Residential District in Yangpu District	145	435	10150
Songnan Rainwater Pump Station	Songnan Town in Baoshan District	36	108	2520
Zhennan-Dachang Pump Station	Zhennan Village of Dachang Town in Baoshan District	110 (rural)	350	19800
P2 Pump Station of Pudong	Xinhua Production Team of Caolu Town in Pudong	40 (rural)	120	7200
P2 Pump Station of Pudong	Hongyi Village of Tang Town in Pudong	24 (rural)	72	4320
P4 Pump Station of Pudong	Jikou Village of Pudong	128 (rural)	384	23040
P3 Pump Station of Pudong	Huandong Village of Suqiao Town in Pudong	4 (rural)	12	720
Total		1048 (including 747 rural households and 301 urban households)	3166 (including 2263 rural residents and 903 urban residents)	155530 (including 130460 rural area and 25070 urban area)

2.2.3 Affected Enterprises

Altogether, 73 enterprises will be affected by the project implementation. Many of these enterprises will be wholly resettled. Please see the following sheets for details of the enterprises affected by the project construction.

Table 2.3 Summary Sheet of the Affected Enterprises

Composites of the project	Number of relocated enterprises	Number of people	Affected area (m ²)				
			Buildings (building area)	Empty land	Green land	Circling wall	Others
Sewage treatment factories, pump stations, and collective pipes	30	1588	121121.83	48516.7	4895	6692.4	38511 trees
Rainwater Pump Stations	23	341	40840	40840	500	305	
Collection System in Pudong	20	1229	20463.7	20463.7	940	1266	1827 trees
Total	73	3158	143442.83	109820.4	6335	8263.4	38938trees

Table 2.3a: Summary of the Enterprises Affected by Sewage Treatment Factory, Intermediary Pump Stations, and the Relevant Collective pipes

Name of the pump station	Name of the enterprise	Ownership	Number of the affected employees	Affected Area(m ²)					Address
				Building (building area)	Empty land	Green land	Circling wall	Others	
Shanghai Zhuyuan No. Two Sewage Treatment Factory	Shanghai Pudong Zhuyuan Industrial Center	Collective	36	2500	570	300	400	430 trees	No. 8 Tianyuanzhai, Gaodong
	Army base	Army	0	6200		120		250 trees	Same as above
	Gaodong Zhuyuan Mechanic Repairs Factory	Collective	78	1100	390	60	389	140 trees	Same as above
	Shanghai Shenpu Crane Mechanic Factory (Gaodong Town)	Collective	385	63500	8750	460	768	270 trees	Hangjin Road of Gaodong
	Shanghai Yiheng Chemical Industry Co. Ltd.	Collective	28	2005	2600	730	2400	360 trees	No. 8 Tianyuanzhai
	Shanghai ZhangxongCopper Products Co. Ltd.	Collective	60	350	420	0	30	85 trees	Same as above
	Shanghai Diancan Special Electromagnetic Line Factory	Collective	15	700	900	0	0	120 trees	No. 8 Tianyuanzhai
	Pudong Zhuyuan Pressure Container Factory	Collective	130	2800	5600	0	500	0	No. 139 Haixu Road
	Shanghai Gaohua Chuangyian Plastics Co. Ltd.	State	150	2400	0	0		0	Gaoqiao Area of North Pudong Road
	Pudong Gaohang Village Huangjiatou Team	Collective	35	350	8000			0	Gaohang Town of Pudong
	Pudong Gaohang Gaoxi Xinguang Industrial Company	Collective	10	6300	350	0	0	466 trees	Same as above
	Shanghai Junshun Materials Trade Company Gaonan Branch	Collective	15	500	800	90	70	toilet 15 squ.m.	Gaohang of Pudong New Area
	Gaohang Zhandou Village Industrial Co. Ltd.	Collective	14	750	608	500	0	350 trees	Same as above
	Gaohang Gaonan Village Industrial Co. Ltd.	Collective	9	670	400	130	185	240 trees	Same as above
Inverted Well and Installing Pipe by Slotting on Nenjiang Road	Shanghai Nenjiang Road Wheel Dock	State	40	150	3200	550	0	200 trees	At the side of Huangpu River on Nenjiang Road
	Shanghai Gongqin Forest Park	State	120-	2350	2600	0	0	Standing plants : 25000 plants	No.200 Jungong Road

	Shanghai Jinseng Gardening Forestation Co. Ltd.	State	18	3450	300	500	0	Big shed : 1200M ²	Same as above
	Shanghai Sensheng Gardening Science & Technology Development Co. Ltd.	State	25	1352	432	280	0	8000 trees	Same as above
	Shanghai Senyuan Garden Construction Co. Ltd.	State	35	3128	400	600	0	Standing plants : 2000 plants	Same as above
	*Shanghai Yangpu River Channel Management Station	State	35	2560	1230	50	200	540 trees	Nenjiang Road
	Shanghai Nenjiang Road Wheel Dock	State	40	150	3200	5	0	300 trees	At the side of Huangpu River on Nenjiang Road
Wenshui Road Intermediary Pump Station	*Business Office Of Miao Town in Chongming District	State-owned	7	2600	60	0	0		1000 Yuexiu Road
	Shanghai Wanzhao Industry & Trade Co. Ltd.	Collective-owned	40	1800	30	50	200		15 Wenshui Road
	Jiuhuan-Huaxin-Yuexiu No. 17 th Gas Station	State-owned	0	0	0	50	300		11 Wenshui Road
Jiamusi Intermediary Pump Station (including 2 inverted wells)	*Hudong Mobile Transport Company	State-owned	86	2435	4200	150	438	85 toilets	2 Jiamusi Road
	*Yanpu Prefecture Municipal Works Maintenance & Construction Co. Ltd.	State-owned	81	621.83	1410	30	372.4	60 wharves	1179 Jungong Road
	*Yangpu Changbai Residential District Third Industry Operation Company	Collective-owned	24	890	40	0	0	0	Songhuajiang Road
	Shanghai Jiehanseng Decoration Engineering Co. Ltd.	State-owned	31	1500	500	235	165	0	1170 Jungong Road
Zhangmiao Pump Station	*Real Estate Maintenance Company of Songnan, Baoshan	Collective-owned	30-	160	30	10	25		10 Tongnan Road
	*Xin'er Electronics Accessories Factory of Songnan, Baoshan	Private-owned	20-	1500	30		250		2 Tongnan Road
Minzhu Pump	*Shanghai Jiangyang Village	Collective-owned	40	1500	4666.7	0	0	40 toilets	856 South

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Station	Industrial Company	wned			7			toil-ets	Jiangyang Road
Total			1588	121121.83	48516.7	4895	6692.4	38511 trees	

Table 2.3b: Summary of the Enterprises Affected by the Construction of Collection System in Puxi

Name of the pump station	Name of the enterprise	Ownership	Number of the affected employees	Affected Area(m ²)					Address
				Building (building area)	Empty land	Green land	Circling wall	Others	
Linfen Garden Pump Station	The Headquarters of the Tenth Huangpu Development & Construction of Zhabei District Urban Investment Construction Co. Ltd. (the land formally owned by Shengli Village of Gaojin Town)	State owned	25	2500	2870	0	0		Lane 370 South Jiangyang Road (south of Fenyang Road and east of Yangquan Road)
Songnan Pump Station	Songnan Real Estate Development Company	State owned	10	200	5080	0	0	Temporary building	West of Heqiaogang on West Changjiang Road
Jiangyang-nan Pump Station	Electric Stone Factory of Zhongyuan Chemical Engineering Co. Ltd. (the land is owned by Huayi Group Company)	State owned	15	3800	4000	0	0	Remains of Electric Stone Piling Land	2590 South Jiangyang Road
Gongkang Pump Station	Jiyun Road Business Dept. of Shanghai Fruit & Food Co. Ltd.	State owned	18	560	4000	200	0	Wharf	58 Jiyun Road
Miaohang Pump Station	Changbei Village of Miaohang Town	Collective owned	0	0	3300	0	0	Lime pool	East of Dongjiaojing Brook and north of the water gate in Dongjiaojing Brook
Dachang Old Town Pump Station	91321 Army	Army base	0	450	0	3000	0	Greenland and resting pavilion	South of Luochang Road and east of Zoumatang
Miao Peng Pump Station	Yuejing Medical Instruments Warehouse (leased)	State owned	12	192	1000	0	25	Shed 220m ²	45 Liuyang Road
	Shuntong Factory (leased)	Collective owned	24	90	120	0	20	Shed 360 m ²	

	Baoshan Daily Chemical Factory	Collective owned	33	560	0	0	0		
	Xinfu Village of Pengpu Town	Collective owned	11	60	0	0	0	Road and sewer	
(north) Zhennan Pump Station	Shanghai Jiefeng Doors & Windows Factory (leased)	Collective owned	20	850	1150	0	50	30 m. of sewer	Jinguang Tenth Team
	Shanghai Yingpeng Chemical Factory (leased)	Collective owned	15	120	600	0	30	60 m. of sewer	
	Jinguang Tenth Team Floor Factory (leased)	Collective owned	30	40	400	0	30	360m ² of shed; 60 m. of sewer	
	Shanghai Shending Plastics Factory (leased)	Collective owned	20	600	200	0	30	40 m. of sewer	
	Shanghai Jiecheng Stationary Factory (leased)	Collective owned	40	750	500	0	40	50 m. of sewer	
	Pingru Planting Farm (leased)	Collective owned	6	320	60	0	60	750m ² of shed; 250m. of underground jet pipe	
	Jinguang Tenth Team Agricultural Machine Room	Collective owned	2	140	30	0	20	160m. of big obvious ditch	
	Zhennan-Dachang Pump Station	Weierdong Furniture Co. Ltd.	Private owned	35	4680	350	0	0	
South Nanda Pump Station	Houjiangqiao Team of Nanda Village of Dachang Town	Collective owned	12	289	2900	0	0	North of Henabang	
Shanghai University Pump Station	* Lianda Decoration Materials Aggregate Shop	Private owned	8	0	0	0	0	3000 squ.m. of simple shed	North of Huanzhen Road and at Nanchen Road
Qianxi Community Pump Station	Qianxi Real Estate Company	State owned	0	0	4680	0	0	Where Qianxi Real Estate Company is	North of Huanzhen Road and east of Taopujing
West of Xinkaihe Pump Station	Fengcunqiaoting Production Team of Dachang Town	Collective owned	0	0	4800	0	0		West of Xinkaihe and south of Yunzaobang

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Jinjujia-zhou Pump Station	Yangjiazhai Production Team of Baiyang Village of Gucun Town	Collective owned	5	260	4800	0	0	4800m2 of brick land	South of Yunzaobang and west of Nanchen Road
Total			341	16461	40840	500	305		

Table 2.3c : Enterprises Affected by the Collection System in Pudong

Name of the pump station	Name of the enterprise	Ownership	Number of the affected employees	Affected Area(m ²)					Address
				Buildings	Empty land	Green land	Circling wall	Others	
P1	Gaodong Industrial Co. Ltd.	Collective owned	15	30	80	120		80 trees	Huandong First Avenue (Gaodong Town Industrial Park)
P2'	Shanghai Minlin Non-Ferrous Metal Co. Ltd.	State owned	250	300	500	20	150	120 trees	80 Jinhai Road in Pudong
P2	Pudong Tangzhen Automobile Repairs Co. Ltd.	Collective owned	30	2100	420	80	200	210 trees	West of the planned Huandong Road and north of Longdong Avenue
	Pudong Tangzhen Town Hongyi Industrial Company	Collective owned	50	1400	180	120	40	50 trees	Same as above
	Tangzhen Jikou Village Industrial Co. Ltd.	Collective owned	55	1000	700	100	0	340 trees	South of the planned Binzhou Road and west of the planned Gutang Road
P4	Tangzhen Metal Machinery Co. Ltd.	Collective owned	50	550	120	30	78	75 trees	On the planned Binzhou Road
	Tangzhen Cement Products Factory	Collective owned	120	500	1000	120	110	90 trees	Same as above
	Tangzhen Workmanship Factory	Collective owned	55	350	100	80	56	70 trees	Same as above
	Tangzhen Agricultural Products Processing Factory	Collective owned	25	200	450	50	130	58 trees	Same as above
	Tangzhen Engineering Decoration Co. Ltd.	Collective owned	250	950	150	20	95	25 trees	Same as above
	Tangzhen Building Repairs Company	Collective owned	150	800	80	15	45	89 trees	Same as above

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	Tangzhen Sideline Food Co. Ltd.	Collective owned	50	630	350	60	112	120 trees	Same as above
	Tangzhen Concrete Agitation Factory	Collective owned	100	1100	600	100	250	320 trees	Same as above
P3	Sunqiao Huandong Industrial Co.Ltd.	Collective owned	15	0	60	25	0	20 trees and a pool of 200mx10 m	West of Huandong Second Avenue and south of Mid. Huaxia Road
P3'	Duimian Village of Chuansha	Collective owned	1	0	3133.4	0	0	130 trees	1176 East Huaxia Road
P6	Arable land of Jielong Village of Chuansha	Collective owned	4	0	3133.4	0	0	30 trees	Jielongcun Avenue
P7	Construction Site of Lupu Bridge at Sanlin (already acquired for municipal work)	State owned	0	0	3466.7	0	0	50 sq.m. of green land	Jiyang Road, Huannan Second Avenue
P8	Shanghai Port Logistics Warehousing Co. Ltd.	State owned	10	0	3133.4	0	0	120 sq.m. of green land	North of Gangcheng Road and west of Jiangdong Road
P9	Heqin Sewage Pump Station (already constructed)	Collective owned	0	0	1733.4	0	0	0	North of South Huanqin Road and west of Yuandong Avenue
P10	Jichang Sewage Pump Station (already constructed)	Collective owned	0	0	1733.4	0	0	0	North of Chenyang Road and west of Yuandong Avenue
	Total		1229	5860	20463.7	940	1266	1827 trees	

2.2.4 Impact on Employment

The project construction needs to acquire some village owned collective land in addition to the state-owned and enterprise-owned lands. Among the affected enterprises, those that will be wholly relocated will rehabilitate its production and operation by leasing other production or business sites. The employees of these enterprises will receive subsidy for the temporary interruption of employment. After the enterprise is relocated, the employees can go to work again in the old enterprise. So the relocation of these enterprises will not have much impact on their employees. Those enterprises that will be partly relocated will feel the temporary impact of the project. Through adequate compensation and relocation, however, the old production layout of the enterprise will be adjusted, e.g. by compacting production space, adjusting the old production site. So the production and operation of these enterprises will not be impacted by the project. Compared with the employees of the enterprises that will be wholly relocated, the employees of the enterprises to be partly relocated will feel less impact from the project and will not be influenced in their engagement with the enterprise.

In addition, the project construction needs to acquire some village owned collective land, mainly for the construction of the collection system projects in Puxi and Pudong. For this purpose, 348.431 mu of arable land will be acquired. According to the land acquisition conditions and the land labor rates of the villages, 681 labors need be provided with jobs after the project. See the following table for details.

Table 2.4 Number of Labors Affected by Construction of the Pump Stations

Category	Name of the pump station	Affected village	Affected area		PAPs
			Squ.m.	mu	
Sewage Factory	Shanghai Zhuyuan No. Two Sewage Treatment Factory	Zhuyuan Village of Gaodong Town	183354.9	275.031	523
	Zhouhai Road Intermediary Pump Station	Gaoxi Village of Gaohang Town	8000	12	24
Pudong Collection System	P3	Huandong Village of Sunqiao Town	1567	2.35	5
	P3'	Duimian Village of Chuansha Town	3333.3	5	10
	P4	Jikou Village of Tang Town	5466.7	8.2	20
	P6	Jielong Village of Chuansha Town	4000	6	12
	P9	Hongqi Village of Heqin Town	5333	8	19
	P10	Jichang Town	5333	8	19
Rain Pump Station in Puxi	Xinkaihe	Fengcun Village of Dachang Town	4800	7.20	15
	Jinzhoujiazhou	Baiyang Village of Gucun Town	4800	7.20	15
	Nanda	Nanda Village of Dachang Town	3000	4.50	10
	Zhennan (north)	Jinguang Village of Taopu Town	3300	4.95	9
Total			232288.5	348.431	681

Due to the land acquisition, the above 681 people (of whom 49 people live in Puxi and 632 in Pudong) will lose their land which they rely on for living. With this regard, the project host will pay labor resettlement fee to them.

2.2.5 Affected Infrastructures

Project affected infrastructures mainly include road, trees, green land, pavement trees and various underground pipes and lines. The project host will compensate the infrastructure owners before the project construction and pay attention to protecting those public infrastructures that are difficult to be relocated during the project construction. After the project construction, the roads, trees, green land and pavement trees will be rehabilitated.

2.2.6 Impact on Vulnerable Group

From the baseline survey, it is known that within the scope of the project construction, 15 households are impoverished households whose per capita monthly income is under 280 yuan, and 3 households are either minority, or the senior living alone, or disabled households.

3. Objectives

The purposes of this RAP is to enable the PAPs to benefit from the project, to improve or at least restore their livelihood, income capacity and production scope, and to pay attention to the need of the vulnerable groups in particular.

Following are the objectives of the RAP.

1. To properly arrange the livelihood and the residence of the PAPs and to guarantee that the income level of the PAPs be improved or at least restored to the prevailing level.
2. To repeatedly revise and perfect the RAP in order to lighten the impact and to minimize the scope of immigration.
3. To guarantee that all PAPs receive compensation for their total loss and are properly relocated and rehabilitated so that they can share the benefits of the project. Meanwhile, compensation should be paid for their temporary hardships and affected properties according to replacement price so that their income level, living standard and the profit-making ability of the affected enterprises will be improved or at least be restored to the pre-resettlement levels.
4. To perfect the necessary equipment of the new housing, and make the resettlement community equipped with complete facilities, convenient transport, comfortable livelihood and fine environment.
5. To enable the resettled people to get used to the host community in a short period so as to stabilize their life.
6. To provide the vulnerable groups with preferential policies in housing, employment, etc..
7. To keep the scope and function of the buildings of the affected enterprises, to restore to the original business environment as far as possible, and to compensate for their losses from operation interruption and temporary change of business environment.
8. To properly compensate the collective-owned land for all its loss and to pay the compensation to the community for no other use but developing the collective economy;
9. The implementation of the resettlement will be monitored and evaluated by the external monitor. The representatives of the PAPs will take part in the decision-making of the resettlement; special institutions will receive complaints from the PAPs.
10. During the process of the project implementing, if the RAP has significant change due to change of the design, etc., the RAP will be revised and submitted to the World Bank for approval; significant changes in the number of affected objects, in the compensation policy or in compensation rates will be submitted to the World Bank first and then implemented after approval. Minor changes during

implementation of the RAP will be reflected in the internal and the external monitoring report.

11. After Phase III is completed, a new modern city of Shanghai will appear before the people. Both the appearance and the sanitary conditions of the project covered area will be greatly improved, which will play an active role in enhancing the health of the relocated people and those in the neighborhood. The completion of the project will promote the social development of the city and help Shanghai take part in the global competition with the appearance of a modern international cosmopolitan. The project will make contributions to the undertaking of environmental protection for China and the world.

4. Socio-Economic Impact

The project host made a baseline socio-economic survey on the project affected area. Through on-spot investigation, random sampling and written questionnaire, data and materials are collected. Some time after the project is completed, the project host will make another socio-economic survey. The results of the two surveys will be compared and analyzed to show the positive or the negative impacts, as well as the degree of the impacts, of the project implementation on the affected population. The purpose of the comparison is to verify the effectiveness of the project implementation.

4.1 Brief Description of the Project Area

The project runs cross 6 districts (Baoshan, Yangpu, Zhabei, Hongkou, Putuo and Putuo New Area), 2 residential districts (Daning and Changbai), 14 towns (Songnan, Gaojin, Dachang, Taopu, Gucun, Gaoqiao, Gaodong, Caolu, Tangzhen, Sunqiao, Chuansha, Jichang, and Sanlin), and more than 10 villages (Xin 2 Village, Xin 3 Village, Shengli Village, Zhangjiazhai Village, Xinhua Village, Huandong Village, Hongyi Village, Jikou Village, Duimian Village, Jielong Village, Gaonan Village, Zhandou Village, and Zhuyuan Village, etc.)

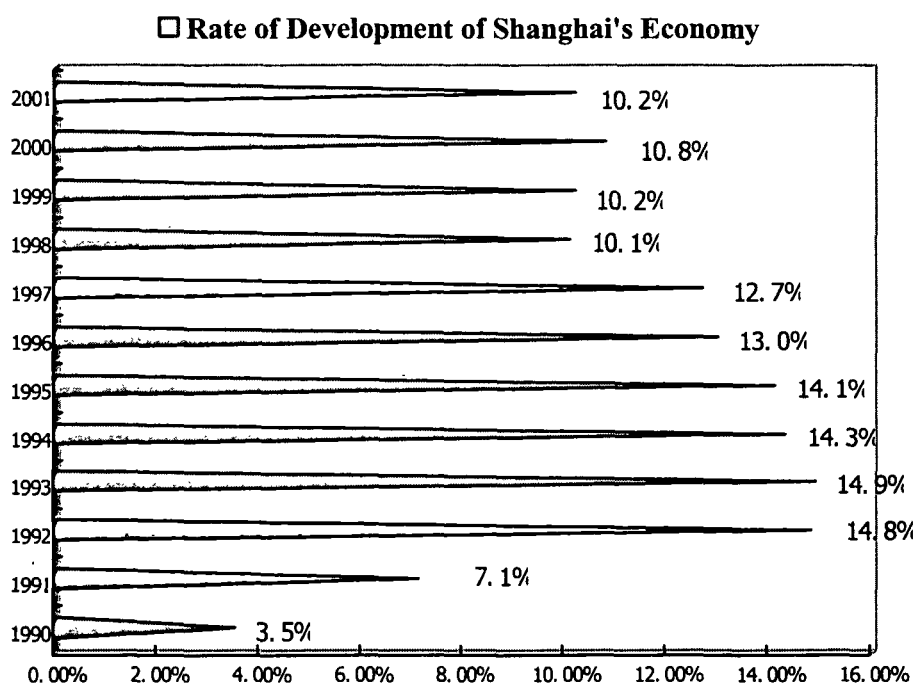
Yangpu District is located northeast of downtown Shanghai and at the lower reaches of Huangpu River, with the east and the south facing the river. The total area of the district is 60.61 squ.km. As the biggest district in downtown Shanghai, it has a registered residential population of 1.24 million. One of the downtown districts of Shanghai, Putuo District is located in the northwest of the city, with 55 squ.km. area and 0.85 million population. It has always been called “the west grand lobby” of Shanghai. Lying east of the north downtown Shanghai, Hongkou District has an area of 23.48 squ.km. and a registered population of 0.86 million. Situated in the north of Shanghai, Baoshan District is one of the key new urban areas that are included in the long strategic plan of Shanghai to be developed in priority. 56 km long from east to west and 23 km long from south to north, the district has a total area of 415 squ.km. and a population of 0.95 million. As an important composite of Shanghai, Pudong New Area is located east of downtown Huangpu River and has an area of 533.44 squ.km and a registered residential population of 1.534 million.

On April 18, 1990, Chinese government declared to develop and open up Pudong in Shanghai and decided to take the development and opening-up of Pudong as the dragonhead to further open the coastal cities along Changjiang River. According to the declaration, Shanghai will be built in the shortest period into an international economic, financial and trade center so as to push the new economic flight of the

whole Changjiang base. The development and opening-up of Pudong has provided historic opportunity for Shanghai. During the past ten years of development and opening-up, the economy of Pudong has been developing at a very high speed, and the urban appearance has changed significantly. Now, Pudong New Area has become the base for the newly emerging high-tech industries and modern industry in Shanghai, the new economic growth point of Shanghai, and the focus and symbol of China's reform and opening-up in the 90s.

The macroscopic background of Shanghai's economy and its influence on the urban residents

1. Shanghai's GDP has been increasing at the two-digit rate.



In 2001, the economy of Shanghai continued to develop fastly and healthily. The economic operation quality became better and the city's comprehensive competitive ability kept improving. The annual GDP reached 4950.84 billion yuan, an increase of 10.2% from last year's level and 2.9 percent higher than the national level. The total GDP of Pudong alone amounted to 108.2 billion yuan, covering 21.9% of the GDP of the city. The increase rate of Pudong's GDP is 16.1%, 5.9 percent higher than that of the city.

2. The average increase rate of the per capita GDP is 11.95%

During "the ninth five years", the per capita GDP of Shanghai has increased considerably from 18943 yuan (the current value) in 1995 to 30773 yuan (the current value) in 1999. The average annual increase rate is 12.9%. In 2000, the per capita

GDP further rose to 34600 yuan (the current value), an increase of 12.4% from that in 1999 and equaling with 4180 USD. In 2001, the per capita GDP of Shanghai again rose to 37300 yuan (the current value), an increase of 7.8% from the last year and amounting to 4500USD, which is a sign that Shanghai has entered the class of medium-income countries (regions) in the world.

Per-Capita GDP of Shanghai(the current value) Unit: yuan

Year	Per-capita GDP	Increase rate	Average increase rate
1995	18943		12.9%(during “the ninth five years”)
1996	22275	17.59%	
1997	25750	15.60%	
1998	28240	9.67%	
1999	30773	8.97%	
2000	34600	12.44%	11.95%
2001	37300	7.80%	(the average rate in seven years)

3、 The Per-Capita Annual Budgetable Income has been increasing at an average rate of 10.25%.

During “the ninth five years”, because of considerable increase in per capita GDP, the per capita income in Shanghai has increased a lot, too. The per capita budgetable income of the urban residents of Shanghai increased from 7171.9 yuan (the current value) in 1995 to 10931.6 yuan (the current value) in 1999. The annual increase rate is about 11.1%. In 2000, the index further rose to 11718 yuan (the current value), an increase of 7.19% from the index of 1999. In 2001, the index again rose to 12883 yuan (the current value), and increased by 9.94% from last year’s level.

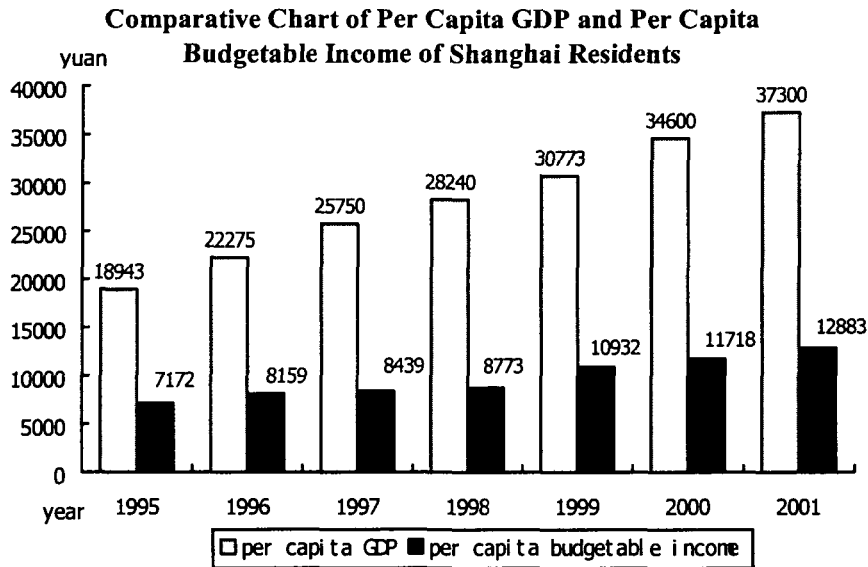
The Per-Capita Income of the Urban Residents in Shanghai (the current value)

Unit: yuan

Year	Budgetable income	Increase rate	Average increase rate
1995	7171.91		11.11% (during “the ninth five years”)
1996	8158.74	13.76%	
1997	8438.89	3.43%	
1998	8773.10	3.96%	
1999	10931.64	24.6%	
2000	11718.00	7.19%	10.25%
2001	12883.00	9.94%	(during the seven years)

3. The elastic coefficient of the budgetable income of the urban residents of Shanghai is 0.86.

According to the above data, during the past seven years, the per capita GDP has increased at an average rate of 11.95% and the per capita budgetable income, at 10.25%. Thus the elastic coefficient of the budgetable income of the urban residents of Shanghai is 0.86. That is to say, as the national economy in Shanghai increases by every 1 percent, the budgetable income of the urban residents can increase simultaneously by 0.86 percent.



4. The Engle Coefficient of the urban and rural residents of Shanghai is between 40% and 50%. Shanghai residents are living a comfortably-off life.

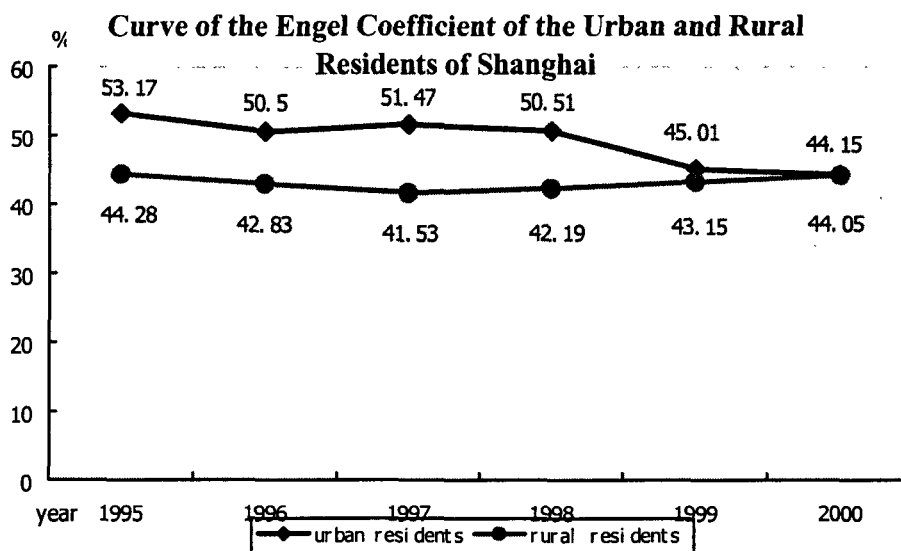
The Engle Coefficient refers to the ratio of the food expenditure in the total living expenditures. The formula is: Engle Coefficient $K = \text{food expenditure} / \text{living expenditures} \times 100\%$. If the food expenditure is comparatively high, the Engle Coefficient is high, showing that the living level is low. In the contrary, with the increase of people's livelihood, the food expenditure become increasingly low, and the Engle Coefficient becomes low. The United Nation takes the Engle Coefficient as one of the important index to assess the livelihood of a country. The country with Engle Coefficient above 60% is regarded to be impoverished; those between 50% and 60%, adequately fed and clad; those between 40% and 50%, well-off; those between 30% and 40%, rich; and those below 30%, extremely rich.

Table of Engle Coefficient of the Urban and Rural Residents of Shanghai

Item	1995	1996	1997	1998	1999	2000	
Urban Residents	Budgetable income (yuan)	7171.91	8158.74	8438.89	8773.10	10931.64	11718.01
	Consumable expenditure(yuan)	5868.12	6763.08	6819.94	6866.41	8247.69	8868.19
	Food expenditure(yuan)	3120.33	3415.56	3510.04	3467.96	3712.31	3915.59
	Engle Coefficient %	53.17	50.50	51.47	50.51	45.01	44.15
Rural Residents	Budegetable income (yuan)	4261	4837	5245	5371	5449	5565
	Consumable expenditure(yuan)	3367.84	3867.86	4227.90	4206.89	3866.76	4137.61
	Food expenditure(yuan)	1491.40	1656.56	1755.64	1775.04	1668.54	1822.55

Engle Coefficient %	44.28	42.83	41.53	42.19	43.15	44.05
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During the whole “ninth five years” from 1995 to 2000, the Engle Coefficient of the urban residents of Shanghai decreased from 53% to 44%, which signifies that the consumption structure of the urban residents of Shanghai has changed from being adequately fed and clad to being well-off. Though the Engle Coefficient of the rural residents of Shanghai has already reached the index of being well off, their budgetable income remains to be increased.



5. Quantity of the Endurable Consuming Products Owned by the Urban and Rural Residents of Shanghai in 2000

Item	100 Urban Residential Households	100 Rural Residential Households
Color TV (set)	147	97
Combined acoustic (set)	31.8	
Home cinema (VCD,DVD)		27
Camera (set)	70.6	14
Walkup camera (set)	2.6	0.5
Refrigerator (set)	102.2	74
Washing machine (set)	93.4	69
Water heater (set)	63.6	44
Microwave oven (set)	78	14
Air conditioner (set)	96.4	14
Home computer (set)	25.6	4.7
Bicycle (set)	125.6	219
Motorcycle (set)	1.2	73

4.2 Socio-Economic Situations of the Project Affected Area

The project affected area mainly includes Gucun, Songnan, Gaojin and Dachang of Baoshan District, Changbai Residential Neighborhood of Yangpu District, Daning Residential District of Zhabei District, Taopu Town of Putuo District, and the towns of Gaoqiao, Gaodong, Caolu, Tangzhen, Sunqiao, Chuansha, Jichang, and Sanlin of Pudong New Area. The affected towns in Pudong New Area include more than ten villages: Xin 2 Village, Xin 3 Village, Shengli Village, Zhangjiazhai Village, Xinhua Village, Huandong Village, Hongyi Village, Jikou Village, Duimian Village, and Jielong Village, etc..

According to the census, rural households account for 10% of the total affected population, and enterprise employees account for 96%. The per capita annual income of the PAPs is 10800 yuan. Of the rural population, those actually engaged in agricultural production account for less than 3%. Most of the rural labors work in the town-owned or village-owned enterprises. Because most affected residents live in urban area, their houses are all private owned. The per capita building area of these houses is 85 sq.m. Following is the results of the survey on the affected residents.

1. Yangjialou Residence at the site of the pump station by Wenshui Road Wenshuilu Intermediary Pump Station, situated north of Wenshui Road and west of Yuexiu Road, occupies a land of 4000 sq.m. The residents of Yangjialou Residential Neighborhood are in the jurisdiction of Yuexiu Neighborhood Committee of Daning Residential District in Zhabei District. There are 120 affected households, occupying the 1st to the 41st of Yangjiazhai.

Following are the major characteristics of the affected residents at Yangjiazhai.

- 1) There are many laid-off or unemployed people. Salary income is usually low. Many people gain income from leasing some residential houses or open small shops on the road.
- 2) Poor public order. Stealing cases have happened to some households.
- 3) Some residential houses are leased by the workers from outside Shanghai. Hence the complicated structure of the unstable residents (these people are not entitled to compensation for relocation).
- 4) Most residents hold a welcome attitude to the relocation. If the site is used to build the pump station, all households of Yangjiazhai will be relocated. Thus disputes will be reduced.

In addition, the quantity of household owned property in this area is slightly lower than the average level of the city. From the survey, it is found that the Engle Coefficient in this area is at the stage of being adequately fed and clad.

2. Dinjiazhai Residence

This is where Jiamusilu Intermediary Pump Station is located. It is west of Jungong Road, south of Jiamusi Road, and north of Songhuajiang Road. The residents at Dinjiazhai are within the jurisdiction of the 95th Lane Neighborhood Committee of Changbai Xincun Residential District in Yangpu District. 145 households will be affected by the project.

Following are the main features of the residents of Dinjiazhai Residence.

- 1) The site is located between the two railway road subsidiaries and Jungong Road. The environment is poor, with low-lying land often ponding.
- 2) Public order is good. The neighborhood committee has a strong administration on the area.
- 3) The salary income is low. The Engle Coefficient is 72%. The livelihood here is at the stage of being impoverished.
- 4) The residents hold a welcome attitude toward the relocation.

3. The residences affected by Pudong Collection System Project and Sewage Treatment Factory Project

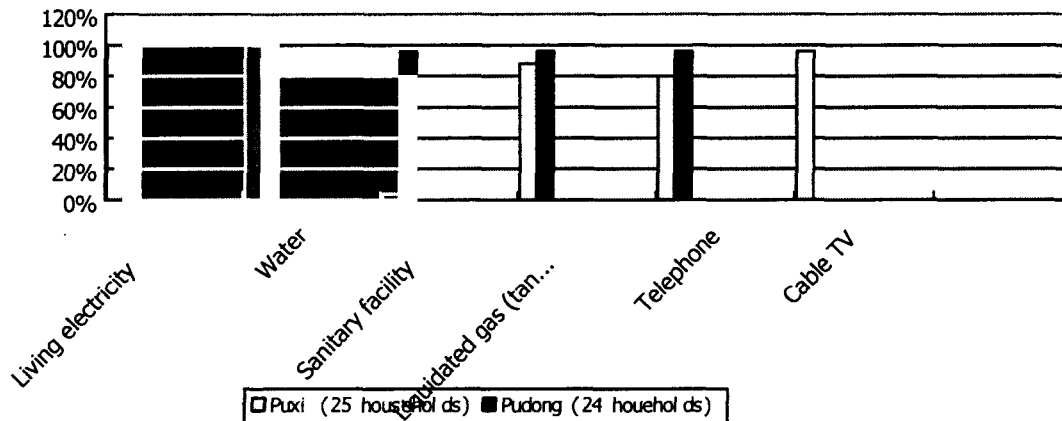
Phase III will affect several residential sites. The income level of the local residents basically equals with that of the urban residents, or even higher in some aspects. In addition, the residential area of the local residents is bigger than that of the urban residents. However, the living conditions and environment in this area are generally not ideal. Most investigated affected residents suggest that they support the municipal work in the first place and are willing to be relocated in new sites in the second. By doing so, they can both improve their living conditions and environment and improve their current livelihood.

4.3 Living Level of the Areas Affected by the Project

Through written questionnaire, the project host surveyed the economic situations of the affected households and got the following results.

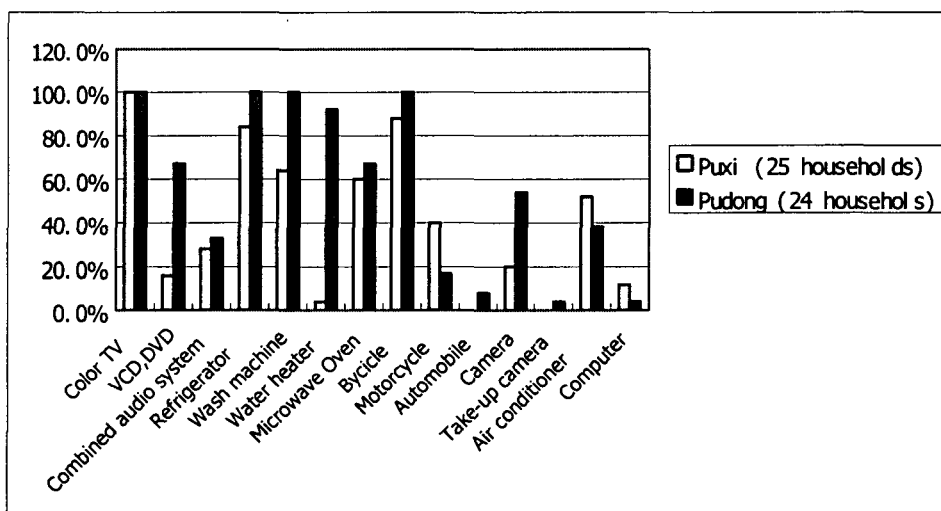
Living Conditions

Item (owning rate)	Puxi (25 households)	Pudong (24 households)
Living electricity	100%	100%
Water	100%	100%
Sanitary facilities	4%	96%
Liquidated gas (tanned gas)	88%	96%
Telephone	80%	96%
Cable TV	96%	0%



Family properties

Owning rate	Puxi (25 households)	Pudong (24 households)
Color TV	100.0%	100.0%
VCD,DVD	16.0%	67.0%
Combined audio sys	28.0%	33.0%
Refrigerator	84.0%	100.0%
Wash machine	64.0%	100.0%
Water heater	4.0%	92.0%
Microwave Oven	60.0%	67.0%
Bycicle	88.0%	100.0%
Motorcycle	40.0%	17.0%
Automobile	0.0%	8.0%
Camera	20.0%	54.0%
Take-up camera	0.0%	4.0%
Air conditioner	52.0%	38.0%
Computer	12.0%	4.0%



4.4 Socio-Economic Impact of the Land Acquisition on the PAPs

The project implementation will have some socio-economic impact on the PAPs.

The land acquisition makes the farmers lose their living resource on which they rely

on, leave their residences where their families have been living for several generations, and have to adapt to the new working and living environment.

According to the survey, all the affected residents within the scope of the acquired land have lived there for many generations, and so have deep feelings for the neighborhood. Because of the project implementation, these people will leave their old community after they are relocated in new houses. That may cause relatives to live separately and thus endistance the kinship.

The relocation of the residents will consume some labor and cost.

Decoration of the new house and the relocation action itself will consume a lot of labor and cost.

Enterprise relocation may cause temporary interruption of the business and incur economic loss.

Because of the land acquisition and borrowing, the affected enterprises need to be relocated. Meanwhile, they need some time and process to look for new business site. That will inevitably cause the enterprise to stop production and operation for some time and thus induce loss of business income.

Though the project construction will impact on the affected residents, enterprises and relevant facilities, it will also enhance the development of the socio-economy in these areas.

5. Legal Framework

5.1 Policies & Regulations

The RAP is formulated in accordance with the laws and regulations of the State and the locality. The main contents of these regulations are extracted as follows.

A. “Land Management Law of the People’s Republic of China” (revised on August 29, 1998)

Following are the extracts.

Ownership

- 1) People’s Republic of China carries out socialistic public ownership on land, i.e. ownership by the whole people and ownership by the collective labors.
- 2) The collective land is organized by the village collective economic organization, or operated and managed by the villagers’ committee.
- 3) Once the collective land is acquired by the nation’s construction, it is changed into state owned land.

Use of Land

The laws allow the transfer of property right between state-owned land and collective-owned land.

Land for Construction

- In case of acquiring land, compensation shall be paid according to the original use of the acquired land.
- The compensations for acquiring arable land include land compensation fee, resettlement grant, and compensation for the auxiliary facilities and the standing crops on the land.
- The land compensation fee for acquiring arable land shall be 6 to 10 times of the past 3 years’ average annual output of the acquired land.
- The resettlement grant for acquiring arable land shall be calculated according to the rural population to be resettled. The rural population to be resettled shall be the result of the area of acquired land divided by the per person arable land before the land acquisition. The resettlement grant for a rural person to be resettled shall be 4 to 6 times of the past 3 years’ average annual per mu output. However, the per hectare resettlement grant shall not excel 15 times of the past 3 years’ average annual output.
- For the rates of land compensation fee and resettlement grant for acquiring other

lands, provinces, autonomous regions, and municipalities directly under the central government shall refer to the rates of the land compensation fee and the resettlement grant for acquiring arable land.

- The province, the autonomous region, and the municipality directly under the central government shall formulate the compensation rate of the accessories and standing crops on the acquired land.
- In case of acquiring vegetable land in the suburb, the institution using the land shall submit new vegetable development construction fund in accordance with the related regulations of the country.
- The rural collective economic organization of the acquired land shall publicize the balance of the compensation for the acquired land to the members of the organization for supervision. It is forbidden to occupy or diverted the land acquisition compensation and other relevant compensation fees for the affected parties.
- The local people's government shall support the rural collective economic organizations and farmers, whose land has been acquired, to engage in business and to establish enterprises.

B. "The Implementary Provisions of Shanghai on Resettlement of Urban Housings" (promulgated on October 29, 2001)

Resettlement Compensation

The resettlement compensation shall employ the means of cash compensation, or exchange of the property house that is of equal value with the cash compensation (hereinafter called "exchange of houses according to value standard). The relocation of residential housing can employ the means of exchange of property house in different places (hereinafter called "exchange of houses according to area standard"), which is based on the building area and does not settle value difference of the entitled area.

The non-public-interest auxiliary structures attached to the buildings shall not be exchanged but shall be cash-compensated by the resettling agency.

The resettlement and compensation means shall be chosen by the resettled people and the lessee according to the regulations.

In case of exchange of houses, the resettling agency shall provide the resettled people or the lessee with at least two host residences, which are approved by the prefecture or county housing and land administrations, as options.

Amount of the Cash Compensation for the Affected House

In case of cash compensation for the affected house, the amount of the compensation

shall be decided according to the evaluated unit price at the real estate market as well as the building area of the dismantled house.

The unit price of the dismantled house is the unit price evaluated at the real estate market. In case the evaluated unit price is lower than or equal with the lowest unit price rate regulated for compensation, the lowest unit price rate shall apply.

The rate of the lowest unit price for compensation is the average market unit price of the purchased public-owned residential house in the same region of the relocated house.

The average market unit price of the purchased public owned residential house in a specified area shall be publicized regularly by the prefecture and county government.

The price subsidy rate shall be decided by the Municipal Price Administration together with the Municipal Construction Commission and the municipal Real Estate Resources Bureau.

Compensation & Relocation of the Unleased Private Residential House

In case of relocation of the unleased private residential house, the resettlement agency shall compensate the resettled residents. The formula to calculate the cash compensation amount is: (the market unit price of the dismantled house + price subsidy) × building area of the dismantled house.

Relocation & Compensation of the Leased Residential House of Negotiated Rental Amount

In case of relocation of the leased residential house of negotiated rental amount, and if the resettled person and the lessee agree to dissolve the lease relationship, the resettling agency shall pay compensation to the resettled people. The formula to calculate the cash compensation is: (the market unit price of the dismantled house + price subsidy) × the building area of the dismantled house.

Compensation & Relocation of the Public-Owned House Leased according to the Government Regulated Rental Rate

In case that the relocated house is the public owned house leased to the residents according to the government regulated rental rate and that the resettled people choose the means of exchange of houses, the resettling agency shall provide the lessee with new residence, and the lease relationship will be retained. The formula for the cash compensation is: (the market unit price of the dismantled house + price subsidy) × the building area of the dismantled house.

In case that the relocated house is the public owned house leased to the residents according to the government-regulated rental rate and that the resettled person chooses the means of cash compensation, the lease relationship shall terminate. The formula to calculate the cash compensation is: the market unit price of the dismantled house × the building area of the dismantled house × 20%.

In case that the relocated house is the public owned house leased to the residents according to the government-regulated rental rate and that the resettled people choose the means of cash compensation, the resettlement agency shall compensate and relocate the lessee according to the following rules.

If the lessee chooses cash compensation or exchange of house according to value standard, the formula for calculating cash compensation is: (the market unit price of the dismantled house × 80% + price subsidy) × the building area of the dismantled house.

Compensation & Relocation of the Private Residential House Leased according to the Government Regulated Rental Rate

The resettled people can choose cash compensation or exchange of house according to value standard. The formula for calculating cash compensation is: the market unit price of the dismantled house × the building area of the dismantled house × 100%.

Exchange of Houses according to Area Standard

In case of exchange of house according to area standard, the entitled area shall be based upon the building area of the dismantled house plus the following percentage.

Class of the dismantled house	Class of the host residence		
	4	5	6
1,2,3	30%	60%	100%
4	-	40%	70%

Relevant Expenses Such As the Resettlement Allowance In Case Of Relocation Of Residential House

The resettlement agency shall pay to the resettled people and the lessee such compensations as resettlement allowance, equipment relocation fee, temporary resettlement subsidy during the transition period, and the additional temporary resettlement subsidy starting from the exceeding month of the transition period.

Compensation In Case Of Relocation Of Non-Residential House

The expenses for equipment relocation and installation calculated according to the transport price and equipment installation price stipulated by the state and the city;

The expense of replacement cost combined with depreciation considerations for the equipment that can't be rehabilitated any more.

Proper compensation for stopping production or business because of the relocation.

C. "Regulations on Resettlement of Urban Housing" (Order No. 305 of the State Council of People's Republic of China on June 13, 2001)

D. "Rates of Shanghai on Compensation for the Property Affected by Land Acquisition for the Construction of Municipal Works" No. 70 of HU TUFA (1990).

Compensation for road or the buildings in hydro facilities will be paid according to the actual construction quality and specifications.

Price estimation and compensation for the collective owned house shall be made according to the quality of the house.

In case of relocation of the residential and private houses, the resettlement agency shall provide the affected residents with host house with respect to the area of the old house. The difference on the area and quality of the exchanged houses shall be compensated.

E. "Provisions of Shanghai on Selling Use Right of the Land" (revised on October 13, 2001)

Applicable Scope: applicable to the sales of the use right of the state-owned land within Shanghai municipal jurisdiction. The collective-owned land shall first be acquired to be state owned, and then its use right can be sold according to the stipulations in this provision.

Ways to sell the use right of the land: 1. by bid; 2. by auction; 3. through negotiation; 4. ways approved by the municipal government.

Returning of the use right of the sold land: If upon expiry of the term of selling the use right of the land, the transferee does not apply for renewal, or though the transferee applies for a renewal but is not approved, the use right of the land shall be returned at no cost.

F. “Provisions of Shanghai On the Cost Allocation for Land Acquisition for Civil Construction Purposes”, and

G. “Provisional Rate of Shanghai on the Price Estimation of Housing”

5.2 World Bank Policy & Implementation

The RAP complies with the relevant resettlement policies of the World Bank in “the Operational Policies 4.12 on Involuntary Immigration”. The main content of the WB policy on involuntary immigrants is illustrated as follows.

- Avoid involuntary immigration as far as possible.
- When involuntary immigration cannot be avoided, the project host shall seek the best engineering scheme to minimize the scope of immigration.
- Assistance and compensation of replacement cost shall be provided timely and effectively to the displaced persons for their losses attributable to the project so as to make their economic and social status no lower than the pre-resettlement level.
- Adequate residential house or host base shall be provided to the residents or peasants, who must be relocated because of the project. Where necessary, agricultural land shall be provided. The comprehensive level of the host community on production potential, advantages and other factors should be at least close to that of the old community.
- During the transition period of adequate duration after the relocation, the construction agency should provide help and support to the displaced residents (e.g. short-term work, basic life guarantees, or maintenance of the pre-resettlement salary level).
- In addition to the necessary compensation, the construction agency should provide the PAPs with assistance in their efforts for further development, e.g. preparing land, arranging loaning institution, providing training or work opportunity. The purpose is to improve their livelihoods and standards of living or at least to restore them, in real terms, to pre-displacement levels or to levels prevailing prior to beginning of project implementation, whichever is higher.
- The PAPs should be fully informed of and take part in the consultation on the resettlement and compensation schemes;
- The existing social and culture organization of the PAPs and the host community should be fully supported so as to enable the PAPs to fit into the host community both economically and socially.
- The fact that some affected residents don’t have legal ownership for the land they live on should not impede their right to receive compensation. Those households with women heads and the vulnerable groups such as the native and the minority should be dully helped to improve their conditions;
- Resettlement of the involuntary immigrants shall be regarded as part of the

- project to be implemented as far as possible;
- The expense for resettlement and compensation shall be included in the project budget and the benefit calculation;
 - The expense for resettlement and compensation may be included in the part of the bank loan for the project.

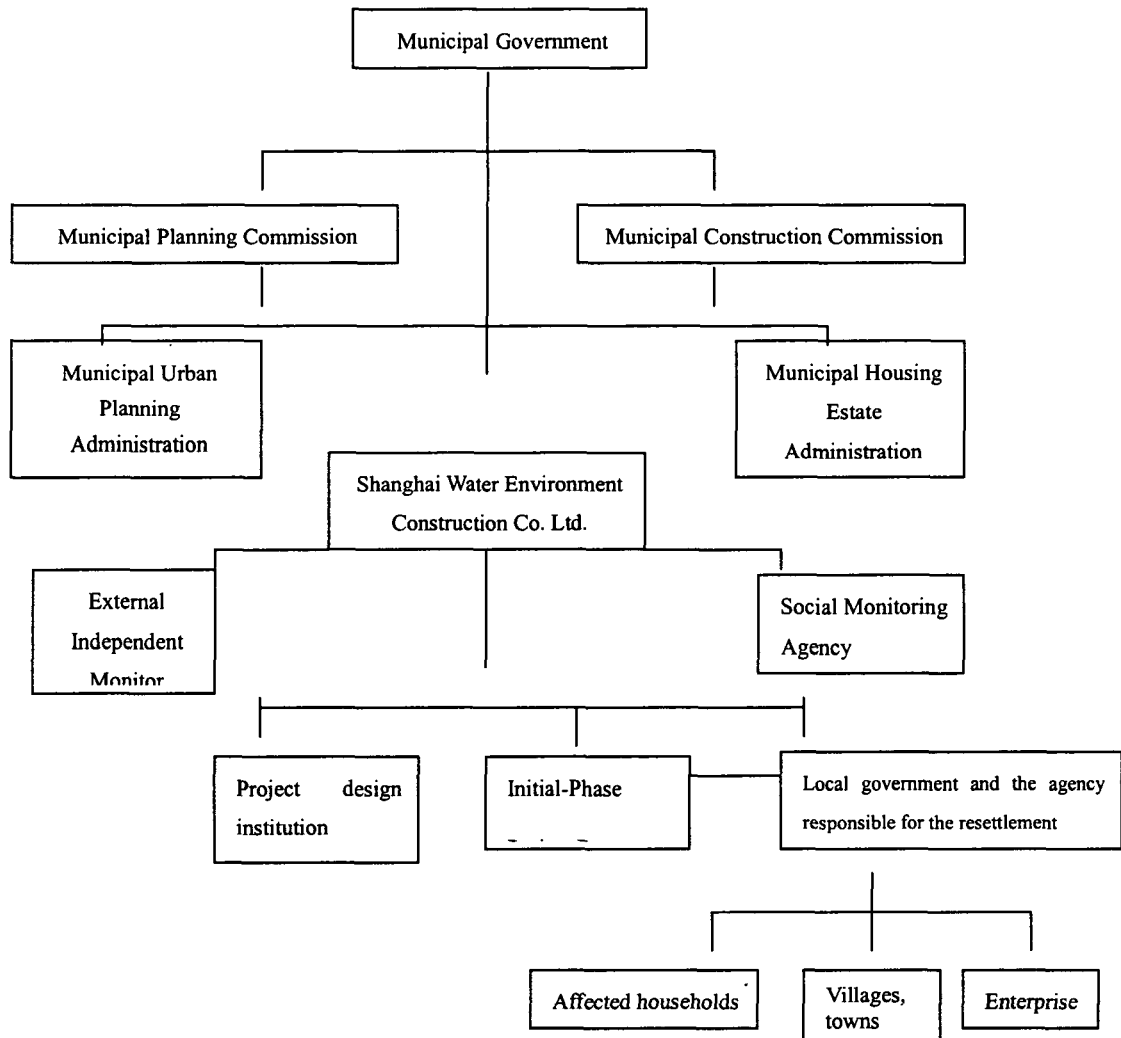
It can be found from above that our country's policies, laws and regulations on project immigrants are in line with the objectives of the World Bank. To comply with the WB requirements, the project host has formulated a series of measures, e.g. making resettlement plan, organizing leader team for the resettlement, establishing monitoring institution, etc.. The purpose of doing so is to make these policies and stipulations conscientiously implemented.

6. Institutional Organizations

6.1 Major Institutions

As a major practical project of the municipal government, the project is equipped with strong institutional organizations so as to ensure the smooth implementation of the project.

The following chart illustrates all the agencies involved in the project and the relevant institutions mentioned in this chapter.



6.2 Institutional Capacity

The Project Resettlement Team is composed of the experts and professionals from the relevant institutions described in 6.1. These people are specialized in resettlement.

The increasing reinforcement of Shanghai on scope and strength of municipal constructions for the recent years has brought about a lot of resettlement actions. From the concrete resettlement activities, the agency or organization responsible for the resettlement have accumulated rich experiences. These agencies and organizations not only have an accurate command of the policies and regulations of the country but understand the psychology of the displaced person as well as the possible difficulties that the displaced person might confront. Meanwhile, there have been quite a few WB financed construction projects in Shanghai. In these projects, these agencies undertook the resettlement actions, too and thus got familiar with the basic principles and requirements of the Bank. Though the Bank's requirement has changed since this project, those who have long been engaged in resettlement activities can grasp very fastly the changed policies and requirements. In addition, to make the resettlement action comply with the requirements of the Bank, the experts who had got through the Bank's Training Class on Resettlement Action will provide professional training for the staff of these agencies and organizations on resettlement activities in order to strengthen their ability to implement the resettlement action.

7. Compensation Rates

The project resettlement and compensation is a heavy task that involves many parties and application of a wide range of policies and regulations. It relates to the direct interests of the displaced people. All the compensation rates set out in this section are formulated in accordance with the above policy and laws, and in line with the relevant directories of the World Bank, and with reference to the actual conditions of this project. In formulating the compensation rates, the following principles have been observed.

- (1) Compensation of any asset will be equivalent to the replacement cost of the asset. Depreciation shall not be included in the replacement cost;
- (2) Compensation payment will be made within a month after the key to the old house is submitted;
- (3) The ultimate objective of the compensation and rehabilitation is to ensure that the livelihood of the displaced people will not fall below the pre-resettlement level.

7.1 Compensation for Land

According to the country's relevant policies and laws, the above principles, and the actual conditions of the project, the compensation rates concerned with land acquisition are listed in details as follows.

Table 7.1 Land Compensation Rates

Type	Rate (yuan/mu) A	Payee B	Purpose C
1. Land compensation fee	5,400 yuan/mu	Land acquisition agency	To develop the second and third industries based on agriculture
2. Compensation for standing crops	960 yuan/mu	The collective and private owner of the property	To compensate for the collective or private loss attributable to the land acquisition
3. Labor Resettlement Cost	12,000yuan/person	Township labor service center	For reemployment and old-age pension of the affected farmers, etc.
4. Arable land development fee	25,000 yuan/mu	District Plan Land Administration	For development of Pudong New Area
5. Arable land occupation tax	6,667 yuan/mu	District Finance Administration	Taxes for all occupied arable land
6. Vegetable land construction fund	30,000yuan/mu	Municipal Plan Land Administration	For development of fields of the same areas
7. Land compensation fee	1000yuan/mu	Prefecture Planned land Administration	To compensate for the arable or non-arable land that can't be rehabilitated
8. Compensation for other ground auxiliaries	According to actual conditions	The collective and individual property owner	For compensation for collective or individual owned separate facilities on the land

Remarks: The above compensation rates are formulated according to No. 316 document "Hu Jia Fang" (1999) and No. 049 document "Hu Cai Zong" of Shanghai Municipal Price Administration "Letter of Reply about Approving the Adjustment of Compensation Rates for Acquired Land", as well as the recently adjusted compensation rate on the acquired land.

7.2 Compensation To Residents

In Shanghai, the relocated residential houses can generally be categorized into 2 categories:

- Private residential house (property household)
- Public housing (lessee household)

According to the relevant compensation and resettlement policy, the following principles should be followed during the relocation process of all the above houses.

1. The displaced person may have two compensation and relocation options: first, compensation at the market price, i.e. according to the evaluated market price of the relocated house, providing the affected resident or the lessee cash compensation or the property house of the same value as the cash compensation; second, exchange of property houses in different places, i.e. providing new property house to the entitled PAP or the lessee, taking into account such factors as the building area of the old house, the principle of “displace one with another”, the locational class of the house and the area difference, and the rule that price difference within the entitled area will not be settled.
2. The basic formula for calculating the market price for compensation is: **cash compensation amount = (market unit price + price subsidy) the building area of the dismantled house.**
3. There are two situations during relocation of the private house.
 - (1) If the dismantled house is the private-owned house either unleased or leased with the market means, the formula to calculate the compensation for the house owner is: **cash compensation amount = (market unit price + price subsidy) × 100% × the building area of the dismantled house.** The lessee of the private house leased with the market means should not be regarded as the direct compensation or resettlement object. The original lease relationship should be dissolved through negotiation by the owner and the lessee. Otherwise, the resettling agency can provide an exchange of property houses for the owner. The exchanged house will still be leased to the original lessee, and the lease relationship remains.
 - (2) If the dismantled house is an old private-owned house (including the old private house returned to the private owner according to relevant policies and leased on behalf of the private owner), neither the lowest unit price rate or price subsidy will be set for deciding the compensation to the owner. The formula to calculate the compensation to the owner is: **the amount of cash compensation = the evaluated unit price × 100% × the building area of the dismantled house.** The formula to calculate the compensation to the lessee is: **the amount of the cash compensation = (market unit price × 80% + price subsidy) × the building area of the dismantled house.**
4. In the above formula, “the market unit price” refers to the evaluated unit price in the real estate market. If the evaluated unit price is lower than the stipulated lowest compensation unit rate, the lowest unit price compensation rate should apply. “The lowest unit price compensation rate” refers to the average unit price of the purchased public house in the same area of the dismantled house. “Price subsidy” should be decided at certain percentage (not lower than 20%) of the average unit price of the purchased public house.
5. If the market evaluated unit price of the dismantled house is no higher than the lowest unit price compensation rate, the price subsidy standard is: the lowest unit price **compensation × subsidy coefficient.** If the market evaluated unit price of the dismantled house is higher than the lowest unit

price compensation rate, the price subsidy standard is: **the lowest unit price compensation × 2 – the evaluated market unit price of the dismantled house × subsidy coefficient**. The subsidy coefficient, no less than 20%, is decided and publicized by the prefecture or country government in reference with the actual situations. For every separate region, only a coefficient can be set. If the price subsidy is lower than 200 yuan per squ.m. building area, the rate of 200 yuan/squ.m. should apply. This calculation method applies to calculating the price subsidy paid to the displaced person and the lessee.

6. In case of the relocation option of exchange of property houses at different places, the rate should be based on the building area of the dismantled house, plus certain percentage of the area. The rates are set out as follows.

Locational class of the dismantled house	Locational class of the host house		
	4	5	6
1,2,3	30%	60%	100%
4	-	40%	70%

7. In case of relocation of public-owned houses, the following methods will be employed in compensating and resettling the owner and the lessee.
 - (1) If the owner chooses an exchange of property house, the owner should be responsible for arranging the lessee. The formula to calculate the compensation for the owner is: **the amount of cash compensation = (market unit price + price subsidy) × 100% × the building area of the dismantled house**.
 - (2) If the owner chooses cash compensation, the old lease relationship should terminate. Neither lowest unit price compensation rate or price subsidy will be set for deciding the compensation payment to the owner. The formula is: **the amount of cash compensation = the evaluated unit price × 20% × the building area of the dismantled house**.

Table 7.2 Basic Formulas for Calculating the Resettlement Compensation for the Residential House with Reference to the Market Price

Private-owned residential house			Public-owned residential house		
Unleased or leased in market means	Leased old private house (including the old private house returned to the private owner according to relevant policies and leased on behalf of the private owner)		The owner chooses an exchange of property houses	The owner chooses cash compensation	
Owner	Owner	Owner	Owner	Owner	Owner
Formula 1	Formula 2	Formula 3	Formula 1	Formula 4	Formula 3

Basic formulas: Cash compensation amount = (market unit price + price subsidy) × building area of the dismantled house

Formula 1: Cash compensation amount = (market unit price + price subsidy) × 100% × building area of the dismantled house

Formula 2: Cash compensation amount = evaluated market price × 100% × building area of the dismantled house

Formula 3: Cash compensation amount = (market unit price × 80% + price subsidy) × building area of the dismantled house

Formula 4: Cash compensation amount = evaluated unit price × 20% × building are of the dismantled house

Resettlement compensation will be paid according to the rates for the residential houses and the residents that will be affected because of the project implementation. The rates are set out in Table 7.3.

Table 7.3 Rates of Compensation for Relocating Residents

Items	Unit price
Moving expense	350yuan/household (450yuan for the household with over 4 members)
Expedite moving award	800yuan/person
Compensation for property housing	276yuan/m ²
Compensation for fitting up and decoration	2000yuan/household
Expense of telephone transfer	200yuan/set
Expense of air conditioner transfer	300yuan/set
Expense for transfer of gas pipe and water heater	200yuan/set
Expense for transferring gas and cable TV	300yuan/household

Remarks: the above rates are formulated according to the documents No. 405 SiZiFa Hufang (87) No. 1281 Hujianyan (92), and No. 398 Hufangdichai (1995).

7.3 Compensation for Affected Enterprise

The affected institution and enterprise owned buildings are mainly auxiliary structures. The compensation rates for relocating these structures are listed as follows.

Table 7.4 Compensation Rates for Relocation of Enterprises

Items to be compensated	Unit price
Framework structure	2700yuan/ m ²
Mixed structure	723yuan/ m ²
Brick-wood structure	460yuan/m ²
Asset moving	5000yuan/set
Employee's living expense during operation interruption of the enterprise	11418yuan/person.year
Setting up temporary buildings for the project	500yuan/m ²
Setting up temporary circling wall	200yuan/m ²
Equipment moving and damage of equipment	To be roughly estimated
Relocation of water, electricity and gas facilities	To be roughly estimated

7.4 Compensation Rates for Affected Agricultural Facilities, Infrastructures and Other Assets

The compensation rates on the agricultural infrastructures and other assets are listed as follows.

Table 7.5 Compensation Rates on Public Facilities and Other Assets
Rates of Compensation for Collective-Owned House

Warehouse	296.58yuan/squ.m.
Pig Shed	289.27 yuan/squ.m.
Chicken Shed	218.53 yuan/squ.m.
Duck Shed	184.63 yuan/squ.m.

Rate of Compensation for Auxiliary Structures

Circling wall	60.94yuan/squ.m.
Empty space	70.64yuan/squ.m.

Rate of Compensation for Plants

Separate trees	27.70trees
Fruit garden	2000yuan/mu
Bamboo garden	1.85yuan/squ.m.

Rate of Compensation for Livestock and Poultry (additional compensation)

Pig	90yuan/pig
Chicken	5.54yuan/chicken
Duck	4.16yuan/duck

Rate of Compensation for Aquatic Products (additional compensation)

Elaborately raised fish pond	2200yuan/mu
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Rates of Compensation for Agricultural, Broadcast & Illumination Lines

Agricultural line	30.47 元/米
Illumination line	24.93 元/米
Broadcast line	11.00 元/米

Rate of Compensation for Destruction of the Facilities in Vegetable Fields

Big open ditch	117.73yuan/m.
Spray facility	1132.93yuan/mu
Pipe shed	5540yuan/shed

Rates of Compensation for Field Hydro Facilities and Road

Underground ditch	148.20-168.28yuan/m.
Sewer	432.12 yuan/sewer
River	6.93 yuan/cubic m.
Septic pond	30.47-44.32 yuan/squ.m.
Road	66.8 yuan/squ.m.

Item	Unit price
Relocation of green land	110yuan/ m ²
Relocation of pavement trees	400yuan/tree
Labor cost paid to the resettling agency	2000yuan/unti
Labor cost for resettling the residents	1000yuan/household
Clearing garbage	40yuan/ton

All the compensation payments will be monitored by the monitoring agency of the project.

7.5 Compensation for Affected Vulnerable Groups

Vulnerable groups include the impoverished families, the disabled families, and families headed by the elders, etc.. The eligibility criteria for vulnerable groups are described as follows.

Table 7.6 Eligibility Criteria for Vulnerable Groups

Type	Criteria
Impoverished family	Average per capita living allowance is below 180 yuan/month
Disabled people	Physically disabled
Old people living alone	The elders (above 70 years old) living alone
Others	Minority, etc.

- The agency responsible for the resettlement (“the resettlement agency”) will try its best to support and help the resettlement action of the vulnerable families.
- All efforts will be made to enable the vulnerable groups’ post-resettlement livelihood excel or at least maintain the pre-resettlement level.

8. Rehabilitation Measures

8.1 Income Rehabilitation Plan

In order to follow the World Bank OP 4.12 and the policies and regulations of our country, and to realize the objectives of the RAP: “to make the displaced person benefit from the project and help them to improve or at least restore to the pre-resettlement living standard, income level and production scale, and to pay special attention to the need of the extremely impoverished of the displaced people”, the project host specially formulated the following income rehabilitation plan.

Enterprise

For the enterprise’ losses attributable to the project, the project host will provide the following compensations and assistances according to the relevant rules.

- Provide as far as possible for the affected enterprises business sites such as industrial park;
- Pay compensation to the affected enterprise for the economic loss caused by interruption of production and operation;
- Pay compensation for the loss in equipment and facilities incurred during the process of the enterprise relocation;
- Pay compensation to the self-employed entrepreneurs for their relocation, and provide business sites to them as far as possible.

Labor

Labors affected by the acquisition of arable land for the project will be relocated according to the plan mutually decided by the management of this project and the township government. The plan, observing the principle of resettlement in nearby neighborhood, mainly consists of the following content.

- One compensation and two guarantees (paying compensation fee; providing guarantees for old-age pension and medical treatment; the society will pay old age pension to the affected labors after they reach the retirement age.).
- Finding jobs by themselves and receiving cash compensation.
- Providing professional trainings and recommending employers.
- Providing old-age pension and medical insurance for women over 45 years old and for men over 55.

Through the above measures, the affected labors who lose their income from the arable land will be properly resettled and retain their income level.

8.2 Treatment & Monitoring of the Environmental Disadvantageous Factors

The temporary relocation or readjustment of production space may bring temporary impact to the affected enterprises. Besides paying compensations, the project host will notice the enterprises in advance so that they may have sufficient time for relocation on the one hand. On the other hand, the project host, with the assistance of the relevant government departments, will actively examine the newly established industrial park in Shanghai and provide information about the rentable production sites so that the enterprises can establish new production sites as soon as possible to reduce losses from the production interruption.

In addition, because the pipelines of the project mainly runs along the central line of the road, some road will be occupied, and some green land will be temporarily relocated. In order not to affect entry and exit of people, the project host will open a temporary pass. In order to increase the survival rate of the relocated trees, the project host will try its best to relocate the trees on the month when relocated trees are liable to survive so as to reduce the death rate of the afforesting plants such as trees.

The peasants who lose the arable land because of the project may, due to change of the working environment, transfer of job, and lacking working skills, etc., have psychological unease or difficulty in adapting to the new jobs. The project host and the local township government will take care of their employment situations, endeavor to provide suitable jobs, and strengthen professional training in order to make them adapt to the new job and new environment as early as possible.

9. Choice and Preparation for the Host Residence

The affected buildings are mainly located in Zhuyuan Village of Gaodong Town in Pudong New Area, Zhandou Village and Gaonan Village of Gaohang Town, Daning Neighborhood of Zhabei District, Changbai Neighborhood of Yangpu District, Dachang Town and Songnan Town (Wusong) of Baoshan District, and Sunqiao Town, Caolu Town and Tang Town of Pudong New Area. Most of the affected residential housings are one or two storied buildings of brick-wood structure. A few of the housings are of brick-concrete structure. Most of these buildings have poor living conditions and auxiliary facilities. They are part of the simple or dangerous buildings to be reconstructed in Shanghai in the future. Because the drainage system in the residential community is disorderly, drainage is not smooth. Passes inside the community are shallow. Some places are low-lying land so that the rainwater will rise to knees inside the house in raining days. These facts, plus the loose management, make the community environment very poor. The residents also hope to be relocated as early as possible in order to improve the existing living conditions. The property rights of most of the affected houses are owned by the inhabitants.

In the recent years, with the increasing construction of the municipal works in Shanghai, large numbers of residents are relocated to new communities every year. Every household would receive proper compensation and resettlement. Basically, every resettled household can get an apartment of brick-concrete structure. Even the household, who used to live in very small house, can get at least a suite of apartment according to the relevant preferential policies. For those households who used to have big houses, the per capita living area of the new apartment may be smaller than that of the old house. But the per capita building area can at least reach the level of 12 squ.m. downtown and 24 squ.m. in the suburb. Economic compensation will be paid for the reduced area. The public facilities of the new community are always established before the community is completed. The new house will have separate bathroom, separate kitchen and the up and down sewages. Thus the new house will be much improved than the old house in terms of living conditions, comfortability, and convenience. Therefore, the relocation will bring to the residents more positive effect than negative effect.

9.1 Choice of Resettlement

The affected residents will have two choices for being resettled: first, cash compensation at the market price (i.e. the former currency relocation); second,

exchange of property houses in different places(i.e. the former material relocation).

Exchange of property houses in different places

Existing housings in different spots (two or three spots) will be provided to the affected residents for their choice. After the affected residents receives compensations for the old houses, they will be provided with new houses according to the rates.

Cash payment at market price

The affected households will be paid cash compensation according to the specified rate and will buy new house on their owns.

In short, besides choosing the resettlement means, the affected residents can choose the sites and size of the new house (With regard to the subsidy rate identified according to the locational class and area, if the new house exceeds the subsidy rate, the resettled resident will only need to pay for the price difference; otherwise, the relocated residents will receive compensation), etc. on their own.

9.2 Choice of the Host Communities

To choose the host communities to resettle the affected residents under the project, the project host made many investigations, and according to the overall conditions of the affected residents, asked for the comments from the affected residents. After repeated comparisons, several communities were selected, e.g. Xinme-Gonghe Community in Zhabei District, Sanquan Community; Chunlan Garden and Gongjiang New Community in Yangpu District, Songnan Community and Sitang New Community in Baoshan District, Shengtang Garden and Tangren Garden of Tanzhen in Pudong, as well as the central communities of Sunqiao and Caolu in Pudong and the residential communities in the other commodity development bases of Shanghai.

The following table lists the new communities to host the affected residents who choose the relocation option of exchange of property houses in different places.

Table 9.1 A Summary Table of the Host Communities for the Affected Households

Number of relocated households (household)	Dismantled building area (squ.m.)	Old place	Host community
297	53460	Zhuyuan Village of Gaodong Town (rural households)	Yangyuan Residential Area in Pudong
52	9360	Zhandou Village of Gaohang Town (rural households)	Central Community in Gaohang
92	16560	Gaonan Village (rural households)	Same as above
80	9600	Yangjialou, Yuexiu Community Commission of Daning Residential District in Zhabei District	Xinme-Gonghe Communit, Sanquan Community, Weilai Garden of Gaohang in Pudong
116	13920	Songnan are in Baoshan District	Songnan Community and Sitang New Community
36	4320	Changbai Residential District in Yangpu District	Chunlan Garden, Gongjiang New Community, Wuhua Garden
110(rural)	19800	Zhennan Village of Dachang Town in Baoshan District (rural households)	Central community of Dachang
40(rural)	7200	Xinhua Production Team of Caolu Town in Pudong (rural households)	Central community in Caolu
24(rural)	4320	Hongyi Village of Tang Town in Pudong (rural households)	Tangren Garden and Shengtang Garden in Tang Town
128(rural)	23040	Jikou Village of Tang Town in Pudong (rural household)	Same as above
4(rural)	720	Huandong Village of Sunqiao in Pudong (rural household)	Central community in Huandong of Sunqiao
Total : 979 (including 747 rural households and 232	162300 (including 134460 rural area and 27840 urban area)		

urban households)			
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Besides choosing the resettlement means, the relocated residents can choose the sites and size of the new house (e.g. if the new housing is bigger than the old one, the residents will only need to pay for the different area; if the new housing is smaller, the residents will receive compensation), etc. on their own.

The PAPs can, by their own wills, choose different resettlement options and sites.

9.3 Assistance during Relocation

During the whole process of the resettlement action, the resettlement agency will give full range of help to the relocated residents, e.g.:

- Before the resettlement, understanding the affected residents' needs and satisfy them as far as possible;
- During the resettlement, contacting the house moving vehicles and assist the moving;
- After the resettlement, further learn about such facts as whether the relocated residents feel comfortable with the new houses and if they have any difficulties, and timely solving these problems.

10. Residential Buildings, Infrastructures, & Social Service of the Host Community

All the host houses provided to the displaced residents are the most popular residential buildings of very little profit. The modern elegant design and complete auxiliary facilities make these buildings the ideal residence for modern people.

Material Relocation:

Yangyuan Residential Community in Pudong

Located in Yangyuan, Pudong, the community is a newly established residential area. Circling the community are newly built cement road, with Waigaoqiao Free Trade Zone in the west and the south-eastward Zhaogao Road connecting the outer ring and Gugao Road separately, with the newly built Xinyuan Road in the east, and with spacious Outer Ring Avenue passing the community. Transports in the neighborhood, mainly public medium-buses and various special public lines, are very convenient. Beside the community, there are Gaoqiao Middle School, Gaodong Primary School, baby day-care center, and kindergarten, etc.. Also, the communities are fully equipped with those facilities essential for the daily life of the residents such as the agricultural products market, restaurant, cinema and other commercial recreational places. Water, electricity, gas, cable TV, and telephone have all been in place. Green trees shadow the lane. The sanitation and real estate management both reach the standards. They are ideal community for the displaced residents.

Xinmei-Gonghe Community and Sanquan Garden in Zhabei District

Xinmei-Gonghe Community, located at Gonghexin Road and Linshi Road, is a newly established residential community. Near the community, there are many public transport lines, e.g. 108,114 and 79, etc.. Sanquan Garden is located at Gongkang Road and Sanquan Road. Public transport lines such as 95, 114 and 232 pass by the community. Though the community has just been built, various auxiliary facilities such as schools, shops and supermarkets have already been established. The road and forestation have also been completed. Water, electricity and gas facilities essential for the daily life of the resident are accessed to every house.

Chunlan Garden in Yangpu District & Weilai Garden in Pudong New Area

The displaced residents of Yangpu District may choose Chunlan Garden in Yangpu

District or Weilai Garden in Pudong New Area. Chunlan Garden, located at Guohe Road and Zhongyuan Road, has in the neighborhood the public transport lines such as 28, 75 and 726, etc.. All the facilities that should be possessed by a residential community have already been established. Now 30% of the houses in the community have been inhabited. The other host community is Weilai Garden. Situated in Gaohang Town of Pudong New Area, the town has become a satellite town for Shanghai. Many displaced people from downtown Shanghai are living in the new communities of the town. Weilai Garden is another large-scaled residential community in the town. Shanghai Municipal Government is investing heavily on developing Pudong, on municipal construction in particular, such as road and transport. That has provided considerable convenience for the newly relocated residents in the town.

Shengtang Garden and Tangren Garden in Tang Town of Pudong

The displaced residents in Tang Town of Pudong can choose to be relocated in Shengtang Garden or Tangren Garden. Shengtang Garden is located south of Longdong Avenue and east of Tanglu Road. Tangren Garden is situated south of Binzhou Road and east of Huandong Second Avenue. The two residential communities are currently under construction. It is learnt that after 6 months or so, the residents can move in. The various auxiliary facilities such as shop, school, supermarket, and hospital are under urgent construction, too. In addition, according to the plan, the Global Movie Mansion and a big Virgin Maria church will be built near the community. A metro station of Shanghai Metro Line 2 will be established near the community, too. That will be a big convenience for the transport of the community residents.

The Central Communities in Gaohang Town, Huandong of Sunqiao Town, and in Caolu Town

All the displaced residents in Gaohang Town, Sunqiao Town and Caolu Town will be relocated in these two newly established central communities in the two towns. That embodies the urbanization of the rural residential buildings in Shanghai. The function and scale of these communities are the same as those of the many established residential communities. Compared with the downtown communities, these central communities are bigger in scale and have better facilities and conditions. Urban residents look forward to living in these communities. But these communities must first be used to relocate the rural residents. Therefore, the provision of these communities for relocation will definitely satisfy the displaced residents.

Songnan, Sitang, Gongjiang New Communities in Baoshan District

Sitang New Community and Gongjiang New Community, located at 128 Jinian Road, West Changjiang Road and Gonghexin Road, are matured and large-scaled

communities established relatively early in Shanghai. Though the community scope is big, transports are convenient. Such public transport lines as 53,95, 114, 118 and 232 pass by the community to Nanjing Road, the Bund and Shanghai Railway Station, etc. downtown Shanghai. Near the community there are big supermarkets such as Hualian, Lianhua, Nonggongshang, etc., and banks, shops and food markets. Most buildings in the communities are multi-story new buildings of separate suites with water, electricity, gas, cable TV, and television all in position. The forestation, sanitation, and real estate management of these communities are advanced examples in Baoshan District. These communities are the ideal residential communities for the displaced residents.

Lying in Songnan Town of Baoshan District, Songnan Community is a newly established community. West Changjiang Road, the main transport road, is near the community. In the community, roads and lanes cross each other. The terminals of many public buses are located inside the community. All these public transport lines extend to such communications hubs as Wujiaochang in Yangpu District and Shanghai Railway Station. There people can transfer to other public vehicle to other places of Shanghai. There are various retail shops and supermarkets in every community. In neighborhood committee, a senior's recreational place is established in order to provide the retired with a place for recreational activities. Also, the communities are fully equipped with middle school, primary school, kindergarten, and babycenter, as well as those needed in the daily life of the residents such as the agricultural products market, restaurant, cinema and other commercial recreational places. Water, electricity, gas, cable TV, and telephone have all been in place. Green trees shadow the lane. The sanitation and real estate management both reach the standards. They are ideal community for the displaced residents.

Commodity House Development Base

Those affected residents who choose currency relocation can purchase commodity house in the market to relocate themselves. The construction of commodity house in Shanghai must be approved in advance by Shanghai municipal planning authorities. The construction of commodity house must be shouldered by the construction of the auxiliary facilities and public infrastructures. Public transport is the first factor to be considered. Others such as supermarket, shop, school, kindergarten, etc. should also be equipped. Therefore, those affected residents who choose currency relocation should not encounter such troubles as inconvenient daily life after they move into the purchased commodity house. Moreover, the residents themselves will carefully examine the neighboring environment of the community as well as the various auxiliary facilities.

11. Environment Protection & Management

Because all the above communities are basically located at the edge of the urban area and all are newly established residential communities, they are not as prosperous as the old downtown communities. The management and monitoring measures for these communities are not very strict. Therefore, to strengthen the community management, real estate management agency was established in every community. According to “Provisional Measures of Shanghai on Real Estate Management of Residential Communities” promulgated by Shanghai Municipal Government, the management measures and regulations of the host relocation communities are stipulated with reference to the concrete situations in order to produce a residential environment of neat and comfortable environment, complete equipment, safe and polite neighborhood, to well relocate and manage the displaced residents, and thus to relieve the inconvenience incurred by the relocation and to strengthen the endurance of the displaced people on relocation.

The management and monitoring measures are mainly incorporated by the following aspects.

A. Pre-decoration Rules:

- (1) The family head should apply to the real estate management for decorating the house and can start decoration only after being approved. The real estate management agency should provide convenience.
- (2) It is forbidden during the decoration and maintenance to change the weight-bearing structure or the external appearance of the house.
- (3) The antitheft gate and net should be installed according to the size and the kind specified by the real estate management. The antitheft net should not exceed 50 cm from the house.

B. Rules on Vehicles

- (1) Vehicles that enter the community should park at the regulated spot, and should be driven along the specified route with no overspeed or loudspeaker.
- (2) For the vehicles that long park in the community, the owner should apply for the “vehicle parking card”, park at the assigned space, and pay the regular parking fee.
- (3) For the vehicles that temporarily park in the community, the owner should park in the temporary parking space and pay the temporary parking fee.
- (4) It is forbidden to wash or repair vehicles in the parking lot or other places in the community.

C. Security Management Rules

- (1) The residents in the community should improve security awareness. The real

estate management should establish various security responsibility mechanisms, and the residents should cooperate in the security work.

- (2) If a criminal case happens in the community, the residents should immediately report to the police and assist the police in breaking the case.
- (3) It is forbidden to move or damage the fire protection appliances in the community. Should any fire disaster happens, the residents are obligated to report immediately to the police and organize the escape of people.
- (4) The residents should strictly abide by the rules on a safe use of electricity, and should not use electricity over the load in order to prevent the electricity illuminated fire accident.

D. Sanitary Rules

- (1) The garbage barrels (bags) of the residents should be put in the assigned place to be collected and transported by the sanitary workers.
- (2) It is forbidden to litter the public ground with water, fruit skins, cigarette ends, urine or night soil.
- (3) It is forbidden to raise fowls or livestock in the public area of the community.

12. Community Participation & Integration with the Local Residents

12.1 Consultations and Participation

During the process of identifying, planning and designing the project, Shanghai Municipal Works Design Institute, Shanghai Municipal Planning Commission and the relevant parties comprehensively planned and studied the feasibility of the project.

12.1.1 Public Consultation & Participation in Drafting the RAP

In the course of drafting the RAP, the PAPs have participated in the following activities related to the land acquisition and resettlement.

- Identify the project's impact on people and housing through the census. The relevant institutions, housing administration departments, town government departments, Villagers' Committees, and Production Teams participated in the census. The census has included all the PAPs.
- Carry out the socio-economic survey on the affected area through direct participation of the PAPs.
- During the census, the affected population, institutions and enterprises raised various advices and requirements for the resettlement. While compiling the RAP and formulating the compensation rates, we have given full considerations to these opinions, and have tried our best to perfect the RAP through consultations with the PAPs and enterprises so as to meet the World Bank requirements.

12.1.2 Public Consultation and Participation In Implementing and Monitoring the Project

During the project implementation, the affected institutions and individuals, together with their representatives, will actively participated in the following activities upon commencement of the project.

- Hold resettlement motivation meetings by regions in order to publicize

- the resettlement policies and compensation rates, to hear opinions from the public, and to better understand people's situations so as to further revise the compensation rates and the decision-making strategy;
- The PAPs can raise their opinions about the resettlement directly to Shanghai Forestation Management (the internal monitor);
 - Organize the PAPs to visit the resettlement sites and various resettlement housings in order to have them know about the environment, transport, and such facilities as commercial shops, schools, communications and sanitary conditions and thus to help the PAPs to make choice; during the process of the visits, to listen to the Pap's comments, requirements, and suggestions so as to improve the resettlement job and to satisfy the PAPs;
 - The resettlement staffs will pay direct visit to the affected people to publicize the RAP, the compensation policies and rates, will learn about the affected households and their special difficulties, and will reply various inquiries from them so as to make due preparation for formulating the housing resettlement scheme and for signing the resettlement & compensation agreement.
 - This RAP will be kept in the on-the-spot Resettlement Office of the project host. When necessary, the PAPs can directly go through the RAP and discuss the relevant questions with the people in charge of the resettlement in the Resettlement Office.

12.1.3 Public Consultation & Participation after Resettlement

- The establishment and improvement of such social service networks as commercial sites, telecommunication infrastructures, and cultural and transport facilities will be completed with participation of the PAPs. Thus the PAPs will live in a comfortable, safe, convenient and afforested environment.
- A sampling survey on the living standard of the PAPs and their comments will be carried out after resettlement to learn about their opinions and requirements and to well handle the supporting work in the final part of the resettlement.
- The monitoring institution will carry out the monitoring and appraisal. The purpose of the job is to learn about the rehabilitation degree of the PAPs as well as their opinions and advices, to help the resettlement institutions to improve their work and timely solve their various difficulties.

12.2 Measures of Integration with Residents of the Host Community

The pouring of the displaced people into the host community will have considerable impact on the local residents and may cause such negative effect as crowded transport, increased enrolled students at school and increased employment pressure. However, the relocation can also have positive effect on the area. For instance, the advanced ideas and technologies brought by some displaced people can promote production, enhance development of commerce, and improve the purchase ability of the host communities.

In order to minimize these negative effects, the project host, before the project implementation, has contacted for many times the local government and neighborhood committee of the host community. The purposes are to timely establish communication channels for the displaced residents, to convenience their contact with the basic government organizations, and to help the displaced residents find the institution or organization to solve their problem if there is any. The project host also helps to expand the local residential services such as school, shop, etc. so that both the existing local residents and the newly relocated residents will be happy with their life and work.

13. Appealing Procedures

The project is a significant municipal work and an environment protection program as well. Through propaganda, explanation, and a huge volume of the first-phase preparation, most citizens have given their support and understanding to the project. Furthermore, the whole resettlement program is and will be done with participation and consultations of the PAPs. It is expected, therefore, that no major grievance issue will arise in the whole complementation process. Nevertheless, to ensure that the PAPs have access for redressing their grievances related to any aspect of the land acquisition and resettlement, a set of detailed procedures for redressing grievance has been established.

Appealing Procedures

At the first stage:

If the PAP has suffered from any damages resulting from the resettlement action, he/she can address his/her grievances to the following institutions either orally or in written form:

- (1) The Resettlement Office;
- (2) The project host.

In case of oral addressing, the relevant institutions hearing the complaint must put the grievance in written form and reply in 15 days' time.

At the second stage:

If the declarant is not satisfied with the decision of the Resettlement Office, he/she can go to the Prefecture Housing Administration within 1 month after he/she receives the reply.

At the third stage:

If the victim is not satisfied with the reply of the Prefecture Housing Administration, or does not receive any reply to the recorded appeal within 15 days, he can appeal to Shanghai Housing Estate Administration for compensation. The latter appeal must be made within three months of the original appeal. Shanghai Housing Estate Administration will make a decision within 1 month after the appeal.

At the fourth stage:

If the PAP is not yet satisfied with the decision, he/she can, according to the Administration Procedure Law, bring a sue to the People's Court within 15 days after receiving the decision of Shanghai Housing Estate Administration.

Appealing Content

The PAP can appeal on anything concerned with the RAP, including the payment of damages.

Materials concerning the above procedures should be circulated among the people. These materials can be included in the booklet or propaganda materials about the resettlement policies and regulations.

Nevertheless, if any dispute occurs during the course of the resettlement, the parties concerned should, before resorting to law, try to solve the dispute by themselves as early as possible under the spirit of consultation and cooperation.

14. Organizations & Responsibilities

14.1 Institutional Responsibilities

As a major practical project of the municipal government, the project is equipped with strong institutional organizations so as to ensure the smooth implementation of the project.

- (1) Municipal Planning Commission;
- (2) Shanghai Municipal Construction Commission;
- (3) Municipal Major Project Construction Office
 - Responsible for coordinating the relations among various departments
- (4) Shanghai Municipal Water Administration
 - Responsible for coordinating the relations among various departments and for collecting funds and coordinating operations
- (5) SWECC
 - Responsible for the construction management of the project and for the initial-stage project construction.
- (6) Initial-Stage Engineering Dept. of SWECC

It is the organ to implement the RAP. Its main responsibilities are set out as follows:

 - a. Entrust the project design institute to identify, in accordance with the requirements of the project, the scope of the construction;
 - b. Apply to the Municipal Planning Administration for “the Planned Land Use Permit” and to the Municipal and Prefecture Housing Estate Administration for “the Construction Land Use Permit” and “the Housing Resettlement Permit”;
 - c. Survey the land acquisition and resettlement of the residential housings, enterprises and institutions on the acquired land;
 - d. Sign resettlement contracts with and sign relocation contracts with the affected units;
 - e. Make compensation payment for the land acquisition and resettlement and coordinate the implementation of the land acquisition and resettlement;
 - f. Pay regular visit to the resettlement agency and the local government in order to learn about the development of the resettlement;

- g. Supervise internally the implementation of the RAP;
- h. Review the supervision report and recommend the remedial measures;
- i. Submit the budget for the land acquisition and resettlement;
- j. Inspect the land use after resettlement.

(7) Shanghai Municipal Planning Administration

According to “the Report of Application for Planned Land Use Permit” submitted by SWECC, and according to the documents of approval on the initial design, Shanghai Municipal Planning Administration will confirm the scope of the land acquisition and issue “the Planned Land Use Permit” and notifies SWECC, Shanghai Housing Estate Administration, and the planned land departments of Pudong New Area.

(8) Shanghai Municipal Housing & Land Resource Administration, People’s Government of Pudong New Area

In accordance with “the Planned Land Use Permit” issued by the Municipal Planning Administration and the report of application for land use of SWECC, Shanghai Municipal Housing & Land Resource Administration or People’s Government of Pudong New Area will issue “the Construction Land Use Permit” and apply to Shanghai Municipal Housing Resettlement Administration or Housing Resettlement Administration of Pudong New Area for “the Municipal Housing Resettlement Permit”. Shanghai Municipal Housing & Land Resources Administration and Construction Bureau of Pudong New Area will supervise the implementation. Housing Resettlement Administration is the higher body to receive PAP’s appeals.

(9) The resettlement agencies (e.g. municipal and prefecture housing and land measuring center, land acquisition office, resettlement implementation agencies and the village and town labor service stations, etc.)

- This is the major institution responsible for the land acquisition and resettlement. Its main responsibilities are to measure and verify the area and the nature of the land, and the affected population, which have been measured by the Municipal Housing Estate Administration. All these information, having been confirmed by the project host, will serve as the basis for “the Construction Land Use Permit” issued by Shanghai Housing & Land Resources Administration or People’s Government of Pudong.
- The resettlement contracts will be signed and the compensation payment for the resettlement will be allocated on the basis of the survey on the affected population and property and according to the compensation/resettlement plan.
- According to the “Letter of Permit on Use of Land”, the resettlement agency will be responsible for measuring and compensating for the land and sign the aggregate resettlement agreement.
- According to the “Letter of Permit on Use of Land”, the resettlement agency will

calculate the number of PAPs, sign agreements with them and be responsible for arranging their jobs.

(10) Social Monitoring Agency: to monitor the whole procedure of the project, including investment, quality, process and resettlement, etc..

14.2 Measures to Strengthen Institutional Capacity

In order to strengthen the institutional capacity, the Resettlement Coordination Team (the Team) will be specially established.

The team will be specially designed for this project and supervised by SWECC. The team will be set up 6 months prior to the commencement of the project. After that, it will convene once every 2 months until 1 year after completion of the project.

The team will be composed of staffs from the relevant institutions mentioned in the above two sections. The membership is specified as follows.

Source Institutions:

- (1) Shanghai Municipal Water Administration;
- (2) SWECC;
- (3) Shanghai Municipal Planning Administration;
- (4) Shanghai Municipal Housing & Land Resources Administration;
- (5) Shanghai Municipal Works Design Institute; Shanghai Municipal Works Design Institute;
- (6) The agencies of the local government responsible for the resettlement.

Major Responsibilities of the Team:

- 1) Monitor the implementation of the RAP and define the job division among the various institutions;
- 2) Examine the advancement of land acquisition and resettlement;
 - a) Review and discuss the internal monitoring report submitted by SWECC;
 - b) Review the summary report, the independent report or conclusions compiled by various implementation institutions and the relevant departments.
- 3) Suggest solutions for handling problems identified in examining the implementation and the monitoring;
- 4) Review the advancement of the actions raised in the last session;
- 5) Discuss the report prepared by the external monitoring and appraisal institution;
- 6) Decided on taking actions that are not included in the RAP in order to reach

the resettlement objectives.

15. Implementation Schedule

15.1 Schedule of Implementing the Land Acquisition and Resettlement

Implementation of the RAP will be completed in half a year, starting from December 2002 and ending in March 2004. The implementation procedures are set out as follows.

Table 15.1 Schedule of Implementation of the resettlement for the project Phase I

Content	2002				2003				2004			2005		
	Month													
	3	6	9	12	3	6	9	12	4	8	12	4	8	12
1. Establish the institutions of the project	—													
2. Apply for and acquire the Permit for Using Planned Land		—												
3. Apply for the Permit for Using State-owned Land			—											
4. Investigate the PAPs and properties	—													
5. Sign agreement with the PAPs			—											
6. Sign contract with the Land Acquisition Office				—										
7. Compensate for all affected properties				—										
8. Build the enterprise relocation housing and other infrastructures				—										
9. Resettle the residents				—										
10. Relocate the enterprises				—										
11. Start the building project						—								

15.2 Timely Resettlement of the Affected Residents

In order to ensure that the project construction will begin on time and will not affect the normal life of the affected residents, after adequate investigation and estimation, the schedule for relocating residential housings is formulated as follows.

Table 15.2 Schedule of Relocating Residential Housing

	Activity	Time
1	Choose sites to relocate housing	5 months before implementation of the project
2	Consult with the affected residents on choosing the relocation sites	6 months before implementation of the project
3	The affected residents declare their choice of the housing relocation sites	6 months before implementation of the project
4	Pay compensation to the affected residents	Pay off within 1 month after moving in the new housing
5	Pay the early moving award	Pay off within 1 month after the relocation is complete
6	Move into the new housing	Within 15 days after signing the agreement
7	Dismantle the old housing (after the affected residents move into the new housing)	After submitting the key

Following is the procedures of implementing the resettlement.

- According to the project documents approved by the municipal government and such documents approved by the country's planning commission as capital construction plan, planned identification of sites and land use, and according to the RAP and resettlement scheme, to apply to the municipal resettlement authority to go through the formalities for resettlement and to receive the Permit for Resettling Housing;
- To issue public announcement about the people and the housings to be resettled within the project area;
- To organize staffs to measure the affected housings and to make detailed records (including the area of the house specified on the title of the private housing, the area of the rooms inside the house, using area and building area, and the structure, age, occupation, employer, etc. of the affected residents) so as to make due preparations for the next stage of the resettlement work;
- To organize staffs to publicize house by house such issues as the policies and regulations governing resettlement, the resettlement locations, compensation rates, requirements, etc., to prepare the PAPs' minds for the resettlement, and to timely put up public announcement about the resettlement in areas where the

housing will be relocated;

- To sign compensation agreement with the households to be resettled;
- To apply to the resettlement authority for an award in case no agreement can be reached on resettlement and compensation;
- To provide 15 days for the affected residents to prepare and handle the moving
- To organize labors to dismantle buildings and to clear space;
- To go through formalities for exchange of titles in the housing administration institution;
- To summarize and to file.

After the resettlement is over, the staffs handling the resettlement will settle the account and meantime write job summary and submit to the relevant authorities for check and approval. The staffs will also clear up the relevant materials and keep them in file after the resettlement is over.

16. Cost & Budget

The total cost of land acquisition and resettlement is estimated to be 1, 637, 143, 615. 18 yuan (at the price of the year 2002). Of the amount:

Base cost for resettlement

According to the volume of the resettlement within the actual affected scope and according to the compensation rates, it is calculated that the base cost of the resettlement will be 1, 399, 268, 047. 16 yuan (according to the price index of 2002).

A Summary of the Estimated Cost for Phase III-the Option of Constructing Minxin Factory

	Collective pipe	The collection system in Puxi	The collection system in Pudong	Subtotal
Base Cost	973, 522, 334. 26	142, 061, 067	283, 684, 646	1, 399, 268, 047. 16
Administrative Cost	9, 735, 223. 34	1420610. 67	2836846. 46	13, 992, 680. 47
Contingencies	97, 352, 233. 43	14206106. 69	28368464. 60	139,926,804.72
Preparation Cost	58, 411, 340. 06	8523664. 01	17021078. 76	83, 956, 082. 83
Total	1, 139, 021, 131	166, 211, 448	331, 911, 036	1, 637, 143, 615. 18

Contingencies

Land acquisition and resettlement is a job involving a wide range of parties and having considerable effect on the life of local enterprises and residents. During the course of the work, there are many contingencies, mainly including two big aspects: project contingencies and price contingencies. It is estimated that the contingencies will be 139, 926, 804. 72, covering 10% of the total resettlement cost.

Preparation Cost

The preparation cost will be used for any change in design and for any unforeseen circumstances during the implementation of the RAP. The preparation cost will be 83, 956, 082. 83 yuan, covering 6% of the total resettlement cost.

Monitoring & Evaluation Cost

In order to ensure the project implementation, it is necessary to invite external

monitor entitled to consult World Bank financed projects. This cost is estimated to be **638,500** yuan.

The total budget of the project has already included the expense for land acquisition and resettlement. Because the cost of the initial-stage project will be on the account of the district government, SWECC, to avoid repeated calculation, will calculate the total volume of resettlement work in its annual investment plan.

16.1 Base Cost of Land Acquisition & Resettlement

Through detailed baseline survey and in accordance with relevant regulations, various compensation costs are calculated according to the rate identified in Section 7 on the compensation policies and regulations.

Table 16.1 Phase III – Collective pipe & Sewage Treatment Factory Estimated Base Cost					
Item	Category	Unit Price	Unit	Quantity	Amount
Compensation for the acquired land	Land compensation	24000	Yuan/mu	287.031	6,888,744
	Arable land development fee	25000	Yuan/mu	287.031	7,175,775
	Land rehabilitation fee	10000	Yuan/mu	580.406	5,804,060
	Arable land occupation tax	4000	Yuan/mu	287.031	1,148,124
	Pre-acquisition fee for taking back the land	1440	Yuan/mu	287.031	413,325
	Vegetable land construction fund	30000	Yuan/mu	287.031	8,610,930
	On- and under-ground agricultural and basic infrastructures	10000	Yuan/mu	287.031	2,870,310
	Subtotal				32,911,268
Compensation for the borrowed land	Using land for construction	10000	Yuan/mu.year	2508.5	25,085,000
Expense for resettling labors	Arranging jobs	110000	Yuan/person	547	60,170,000
	Subtotal				85,255,000
Compensation for affected Urban residents	Moving fee	450	Yuan/household	265	119,250
	Award for early moving	1500	Yuan/person	795	1,192,500
	Compensation for decoration	2000	Yuan/household	265	530,000
	Compensation for transferring telephone	200	Yuan/set	265	53,000
	Compensation for transferring air-conditioner	300	Yuan/set	265	79,500
	Compensation for transferring the gas-powered water heater	200	Yuan/household	265	53,000
	Compensation for transferring gas pipe and cable TV	300	Yuan/household	265	79,500
	The lowest unit price of compensation (2900yuan/m ²)	2900	Yuan/squ.m.	18550	53,795,000
	Subtotal				55,901,750
Compensation for affected rural residents	Moving fee	450	Yuan/household	441	198,450
	Award for early moving	1500	Yuan/person	1325	1,987,500
	Compensation for private house	276	Yuan/squ.m.	31266	8,629,416
	Compensation for decoration	2000	Yuan/household	441	882,000
	Compensation for transferring telephone	200	Yuan/set	441	88,200
	Compensation for transferring air-conditioner	300	Yuan/set	352.8	105,840
	Compensation for transferring the gas-powered water heater	200	Yuan/household	396.9	79,380
	Compensation for transferring gas pipe and cable TV	300	Yuan/household	441	132,300
	Host house compensation (80m ² /household)	2600	Yuan/squ.m.	38808	100,900,800
Subtotal				113,003,886	
Framework structure	Framework structure	2700	Yuan/squ.m.	12112	32,702,894
	Mixed structure	723	Yuan/squ.m.	84785	61,299,758

RAP for Shanghai Sewage Project Phase III (Zhuyuan)

Compensation for affected enterprises	Brick-wood structure	460	Yuan/squ.m.	24224	11,143,208
	Land	550000	Yuan/mu	680.4	374,220,000
	Circling wall	200	Yuan/squ.m.	6692	1,338,480
	Empty land	100	Yuan/squ.m.	53412	5,341,170
	Compensation for asset moving	5000	Yuan/unit	30	150,000
	Employee's living allowance during operation interruption of the enterprise	14000	Yuan/person,year	1588	22,232,000
	Compensation for moving equipments and the damages	To be estimated			840,000
	Compensation for the enterprise moving water pipe, electricity and gas line	To be estimated			176,000,000
	Compensation for transferring green land and flowers	To be estimated			700,000
	Subtotal				685,967,511
Other expenses	Labor cost paid to the asset moving agency	2000	Yuan/unit	30	60,000
	Labor cost for moving residents	1000	Yuan/household	706	706,000
	Expense for clearing garbage	40	Yuan/tong	1.4T/m ²	6,745,475,891
	Subtotal				482,920
Total				973,522,334	

Administrative cost 1%	0.01	9735223.34
Contingencies 10%	0.1	97352233.43
Preparation cost 6%	0.06	58411340.06
Subtotal		1,139,021,131

Table 16.2 Phase III – the collection system in Puxi					
Estimated Base Cost					
Item	Category	Unit price	Unit	Quantity	Amount
Compensation for the acquired land	Land compensation	24000	Yuan/mu	23.85	572,400
	Arable land development fee	25000	Yuan/mu	23.85	596,250
	Land rehabilitation fee	10000	Yuan/mu	39.65	396,500
	Arable land occupation tax	4000	Yuan/mu	23.85	95,400
	Pre-acquisition fee for taking back the land	1440	Yuan/mu	23.85	34,344
	Vegetable land construction fund	30000	Yuan/mu	23.85	715,500
	On- and under-ground agricultural and basic infrastructures	10000	Yuan/mu	23.85	238,500
	Subtotal				2,648,894
Compensation for the borrowed land	Using land for construction	10000	Yuan/mu.year	409	4,090,000
Expense for resettling labors	Arranging jobs	110000	Yuan/person	49	5,390,000
	Subtotal				9,480,000
Compensation for affected Urban residents	Moving fee	450	Yuan/household	36	16,200
	Award for early moving	1500	Yuan/person	108	162,000
	Compensation for decoration	2000	Yuan/household	36	72,000
	Compensation for transferring telephone	200	Yuan/set	36	7,200
	Compensation for transferring air-conditioner	300	Yuan/set	36	10,800
	Compensation for transferring the gas-powered water heater	200	Yuan/household	36	7,200
	Compensation for transferring gas pipe and cable TV	300	Yuan/household	36	10,800
	The lowest unit price of compensation (2900yuan/m ²)	2900	Yuan/squ.m.	2520	7,308,000
Subtotal				7,594,200	
Compensation for affected rural residents	Moving fee	450	Yuan/household	110	49,500
	Award for early moving	1500	Yuan/person	350	525,000
	Compensation for private house	276	Yuan/squ.m.	19800	5,464,800
	Compensation for decoration	2000	Yuan/household	110	220,000
	Compensation for transferring telephone	200	Yuan/set	110	22,000
	Compensation for transferring air-conditioner	300	Yuan/set	132	39,600
	Compensation for transferring the gas-powered water heater	200	Yuan/household	110	22,000
	Compensation for transferring gas pipe and cable TV	300	Yuan/household	110	33,000
	Host house compensation (80m ² /household)	2600	Yuan/squ.m.	9680	25,168,000
Subtotal				31,543,900	
	Framework structure	2700	Yuan/squ.m.	8231	22,222,350
	Mixed structure	723	Yuan/squ.m.	4938	3,570,391
	Brick-wood structure	460	Yuan/squ.m.	3292	1,514,412
	Land	550000	Yuan/mu	67.4	37,070,000

RAP for Shanghai Sewage Project Phase III (Zhuyuan)

Compensation for affected enterprises	Circling wall	200	Yuan/squ.m.	305	61,000
	Empty land	100	Yuan/squ.m.	41340	4,134,000
	Compensation for asset moving	5000	Yuan/unit	23	115,000
	Employee's living allowance during operation interruption of the enterprise	14000	Yuan/person.year	341	4,774,000
	Compensation for moving equipments and the damages	To be estimated			2,040,000
	Compensation for the enterprise moving water pipe, electricity and gas line	To be estimated			13,200,000
	Compensation for transferring green land and flowers	To be estimated			1,610,000
	Subtotal				90,311,153
Other expenses	Labor cost paid to the asset moving agency	2000	Yuan/unit	23	46,000
	Labor cost for moving residents	1000	Yuan/household	146	146,000
	Expense for clearing garbage	40	Yuan/tong	1.47/m ²	2,070,149,362
	Subtotal				482,920
Total				142,061,067	

Administrative cost 1%	0.01	1420610.67
Contingencies 10%	0.1	14206106.69
Preparation cost 6%	0.06	8523664.01
Subtotal		166,211,448

Table 16.3 Phase III – the collection system in Pudong					
Estimated Base Cost					
Item	Category	Unit price	Unit	Quantity	Amount
Compensation for the acquired land	Land compensation	24000	Yuan/mu	37.55	901, 200
	Arable land development fee	25000	Yuan/mu	37.55	938, 750
			Yuan/mu		
	Land rehabilitation fee	10000		120.8	1, 208, 000
	Arable land occupation tax	4000	Yuan/mu	37.55	150, 200
	Pre-acquisition fee for taking back the land	1440	Yuan/mu	37.55	54, 072
	Vegetable land construction fund	30000	Yuan/mu	37.55	1, 126, 500
	On- and under-ground agricultural and basic infrastructures	10000	Yuan/mu	37.55	375, 500
	Subtotal				4, 754, 222
Compensation for the borrowed land	Using land for construction	10000	Yuan/mu.year	2454.9	24, 549, 000
Expense for resettling labors	Arranging jobs	110000	Yuan/person	85	9, 350, 000
	Subtotal				33, 899, 000
Compensation for affected Urban residents	Moving fee	450	Yuan/household	0	0
	Award for early moving	1500	Yuan/person	0	0
	Compensation for decoration	2000	Yuan/household	0	0
	Compensation for transferring telephone	200	Yuan/set	0	0
	Compensation for transferring air-conditioner	300	Yuan/set	0	0
	Compensation for transferring the gas-powered water heater	200	Yuan/household	0	0
	Compensation for transferring gas pipe and cable TV	300	Yuan/household	0	0
	The lowest unit price of compensation (2900yuan/m ²)	2900	Yuan/squ.m.	0	0
	Subtotal				0
Compensation for affected rural residents	Moving fee	450	Yuan/household	196	88, 200
	Award for early moving	1500	Yuan/person	588	882, 000
	Compensation for private house	276	Yuan/squ.m.	35280	9, 737, 280
	Compensation for decoration	2000	Yuan/household	196	392, 000
	Compensation for transferring telephone	200	Yuan/set	196	39, 200
	Compensation for transferring air-conditioner	300	Yuan/set	196	58, 800
	Compensation for transferring the gas-powered water heater	200	Yuan/household	196	39, 200

RAP for Shanghai Sewage Project Phase III (Zhuyuan)

	Compensation for transferring gas pipe and cable TV	300	Yuan/household	196	58,800
	Host house compensation (80m ² /household)	2600	Yuan/squ.m.	17248	44,844,800
	Subtotal				56,140,280
Compensation for affected enterprises	Framework structure	2700	Yuan/squ.m.	2930	7,911,000
	Mixed structure	723	Yuan/squ.m.	1758	1,271,034
	Brick-wood structure	460	Yuan/squ.m.	1172	539,120
	Land	550000	Yuan/mu	83.3	45,787,500
	Circling wall	200	Yuan/squ.m.	1266	253,200
	Empty land	100	Yuan/squ.m.	21404	2,140,370
	Compensation for asset moving	5000	Yuan/unit	20	100,000
	Employee's living allowance during operation interruption of the enterprise	14000	Yuan/person.year	1229	17,206,000
	Compensation for moving equipments and the damages	To be estimated			1,800,000
	Compensation for the enterprise moving water pipe, electricity and gas line	To be estimated			110,000,000
	Compensation for transferring green land and flowers	To be estimated			1,400,000
	Subtotal				188,408,224
Other expenses	Labor cost paid to the asset moving agency	2000	Yuan/unit	20	40,000
	Labor cost for moving residents	1000	Yuan/household	196	196,000
	Expense for clearing garbage	40	Yuan/tong	1.4T/m ²	1,223,712,224
	Subtotal				482,920
Total					283,684,646

Administrative cost 1%	0.01	2836846.46
Contingencies 10%	0.1	28368464.60
Preparation cost 6%	0.06	17021078.76
Subtotal		331,911,036

16.2 Annual Budget

The RAP will be implemented in 5 years. The cost for the initial-stage project is RMB1,637,143,615.18, which is arranged as follows.

Item/year	2002/11-12 (10,000 yuan)	2003 (10,000 yuan)	2004 (10,000 yuan)	2005 (10,000 yuan)
Acquired land	6000	23000	22000	8000
Enterprises	2000	37000	25000	10000
Residents	6500	15000	5000	3700
Total	15000	75000	52000	21700

16.3 Finance & Flow of Funds

Part of the fund for the project will come from the loan of the World Bank on environment protection, and the remaining budget will be financed at home.

According to the compensation policy and the rates stipulated in the RAP, SWECC will entrust relevant district owned departments responsible for the resettlement, together with the various associate institutions, enterprises and public infrastructure organs, to sign the compensation agreement, and will pay compensation in compliance with the requirements of the agreements and according to the advancement of the project.

Table 16.2 Summary Sheet of Implementation of the Land Acquisition and Resettlement

Affected category	Item	Compensation payee	Form of compensation	Institutions responsible for compensation	Method of compensation
Land		The individual, the collective, township government and the private enterprise	(a)labor arrangement (b)economic rehabilitaion measures (c)compensate for seeking job on one's own	The local government; Land Administration; Villagers' Committee	The local government will entrust the resettlement agency to pay compensation to the Land Administration and the villagers' committee for their allocation to the farmers.
Fields	Infrastru-cture	The collective and the individual	Replacement compensation	Local government institutions; the Villagers' Committee	The local government entrust the intitutions responsible for the resettlement to pay compensation to the Villagers' Committee for their allocation to the subordinate collectives and the farmers.
Housing	Private housing	Household	a)being resettled in other sites ; b)being resettled in neighboring community	The local government institution; Housing Resettlement Office	The local government institution will entrust the housing resettlement institution to sign agreement with the individuals so as to implement the resettlement.
	Enterp-ri-se housing	Owner of the housing	Economic compensation	The local government institution	The local government institution will entrust the resettlement institution to sign agreement with the property owner.
	Lessee	Lessee	Compensation for terminating the leasing business	The local government institution; the property owner of the housing	The local government will entrust the resettlement institution to pay compensation to the property owner of the housing for repaying to the lessee.
Resettlement	Individuals		Compensation for asset moving and awards	The local government institution; Housing R esettlement Office	The local government will entrustthe resettlement institution to sign agreement with and pay compensation to the individual.
Other facilities	Facility owner, local government and relevant institutions		Replacement compensation and material compensation	The local government institution; Housing Resettlement Office	The local government will entrust the resettlement agency to compensate the local government and the relevant parties to rebuild the facilities, or to pay compensation to the individual in case the individual is affected.

17 Monitoring & Appraisal

To ensure that the RAP is carried out in accordance with the relevant requirements of the RAP and to guarantee the progress and quality of the resettlement action, during and after the project, internal and external monitoring must be carried out.

17.1 Internal Monitoring

SWECC, will establish the internal monitoring institution to carry out internal monitoring.

Objectives

The objective of the internal monitoring is to monitor the implementation of the RAP for Phase III.

Responsibilities

- (1) To ensure the implementation of the relevant regulations of the State and the municipality on land acquisition and resettlement as well as the implementation of the relevant requirements set out in the World Bank OD 4.30.
- (2) To monitor frequently the progress of various jobs of the implementation of the RAP so as to identify and timely solve problems and to further ensure that the resettlement is completed in line with the schedule.

Indicators to be monitored

- (1) According to the compensation rate described in the RAP, to pay compensation to the institutions, households, and enterprises affected by the project;
- (2) According to the choice of the affected residents, to allocate new housing to them, and to register the distance from the new residences to the old ones and the number of people who were provided with residential housings on the designated date;
- (3) To provide the affected labors with several relocation options for their choice, and to pay transitional subsidy to them during their waiting for being employed;
- (4) To rehabilitate the public facilities and infrastructures affected by the project;
- (5) To pay old-age pension to the labors who meet the criteria to receive the pension;
- (6) To pay subsidy to the PAPs who seek jobs on their owns;
- (7) 2 months prior to starting the project, the affected enterprises shall choose the sites for relocation and the project host shall pay compensation for the affected

infrastructures and other facilities, for the employees' interrupting work, and for the interruption of operation because of the relocation.

Contents to be monitored

The internal monitoring will be carried out in accordance with the contents of the external monitoring, stressing on monitoring the progress, quality and actual benefits of the resettlement.

Methodology & Procedure

- (1) To identify the major indicators to be monitored according to the above content, and formulate corresponding tables to be filled out and submitted once a month or once a season.
- (2) To carry out the sampling verification to examine the correctness of the filled tables;
- (3) To convene regular meetings to report on progress of the resettlement, and supervise the progress of completion;
- (4) To inspect the project sites irregularly so as to appraise the on-site work;
- (5) To set up the regular report system, compiling every three months a report on the advancement of the implementation including the indicators to be monitored, for submission to SWECC, the external monitoring institution and the World Bank.

17.2 External Monitoring

According to the World Bank stipulations, in order to ensure the proper implementation of the project, it is necessary to assign an external monitor to monitor and evaluate the implementation of the project. Therefore, we specially entrust the Economic, Legal & Social Consultancy Center (ELSCC) of Shanghai Academy of Social Sciences to act as the external monitor for implementation of the RAP.

Established in 1980, ELSCC is one of the earliest established consulting organs in China. ELSCC not only boasts rich experiences in such consulting areas as foreign investment, marketing research, asset appraisal, etc., but enjoys favorable prestige at home and abroad. Besides, ELSCC is one of the few domestic consulting organs entitled to undertake the consulting work for the World Bank loaning projects. ELSCC has undertaken the following consulting works for the World Bank, IFC or ADB loaning projects.

- Industrial Reform Projects on World Bank loans
 - Shanghai Motor (Group) Company (with subordinate 23 factories)
 - Shanghai Tools Factory (the first grade enterprise of the country)

- Shanghai Si Fang Boiler Works
- Shanghai Glass Works (the second grade enterprise of the country)

- External Monitoring and Appraisal (“M&E) for the RAPs
 - M&E for the RAP of Shanghai Sewage Phase II
 - M&E for the RAP of Shanghai Sewage Phase III
 - M&E for the RAP of Shanghai WaiGaoQiao Generator Plant
 - M&E for the RAP of Jinshajiang Road Ramp Project for Shanghai Inner Ring Road
 - M&E for the RAP of Zhoujiazui Road Ramp Project for Shanghai Inner Ring Road
 - M&E for the RAP of Shanghai Krupp Stainless Steel Rolls Project
 - M&E for the RAP of Nanning Chaoyang Creek Treatment Project
 - M&E for the RAP of Shanghai Suzhou Creek Rehabilitation Project

ELSCC encompasses an aggregation of experts and scholars, among whom many professionals attended the class on monitoring and appraising the World Bank loaning land acquisition and resettlement.

Objectives

The independent monitor will appraise the resettlement. Looking at the overall implementation from a broader, long-term point of view, ELSCC will evaluate whether the resettlement

- (1) Comply with the laws of P.R.C. on resettlement;
- (2) Comply with the principles of the World Bank’ OD 4.30 on Involuntary Immigration; and
- (3) Improve or at least maintain the current livelihood of the PAPs.

Responsibilities

- Before implementation of the RAP, verify the census results and engage in the socio-economic baseline survey on indicators including the living standards of the PAPs;
- During implementation of the RAP, monitor the overall implementation of the RAP and raise suggestions on improving the RAP;
- After implementation of the RAP, survey and appraise the socio-economic effect of the project and examine the results of the RAP.

Indicators to be monitored

In addition to the indicators mentioned above (in the section on internal monitoring), ELSCC will monitor and apprise the following indicators.

- (1) Payment of compensation
 - (a) Pay adequate compensation to all the PAPs three months before the project starts;
 - (b) Monitor and make detailed records of the categories, standards, amount, payment date, and the receiver of the compensation.

- (2) Relations between land acquisition and resettlement on the one hand and construction of the project on the other
 - (a) Land acquisition and resettlement shall be finished at least 1 month before project construction commences;
 - (b) Relocation of the base land will be completed at least 2 months before the project construction commences.

- (3) Rehabilitation of infrastructures
 - (a) All the relocated infrastructure shall be rehabilitated at least to their pre-acquisition level;
 - (b) The compensation for the dismantled infrastructures shall be sufficient for reconstructing it to the pre-acquisition quality.

- (4) Provision of housing
 - (a) The PAPs shall be provided with housings on their own choice;
 - (b) Housings shall be provided in accordance with the rates in the RAP;
 - (c) The PAP must move in the new house 1 month prior to the construction of the project;
 - (d) The external monitor shall monitor and make detailed records of the specific requirements for the resettlement of housing, the dates when the PAPs move in the new housing, and the actual situations of the housing resettlement;
 - (e) The compensation payment for the affected housing shall be formulated in compliance with the rates and features of the construction and equivalent to the reconstruction cost of the house;
 - (f) Property management of the new residential community shall be properly arranged;
 - (g) The PAPs shall timely obtain their entitled compensations, e.g. moving grant and award;
 - (h) Compensation shall be paid for moving the other appliances (e.g. cable TV, telephone).

- (5) Satisfaction Degree of the PAPs
 - (a) Monitor and record the PAPs' satisfaction degree and specific opinions on various aspects of the RAP;
 - (b) Examine the mechanism and speed of handling conflicts.

- (6) Living standards

During implementation of the project, socio-economic survey must be conducted on the PAPs and the non-PAPs for comparison. The survey must employ the combination of the stratum sampling and group random sampling to learn about and report the potential problems of the PAP during rehabilitation of the living standard. One year after completion of the land acquisition and resettlement, an overall socio-economic survey and analysis will be conducted, and the living standard and conditions of the PAP will be reported in written form so as to evaluate the influence of implementation of the RAP on the living standard.

Methodology

- (1) They survey shall employ questionnaires. After systematic training, the investigating staff shall make on-the-spot investigations, talk with the affected residents to learn about their ideas on various problems, and examine people of different walks and raise various problems that may affect the project so as to monitor and appraise the project from various angles and from a wider viewpoint.
- (2) While monitoring the implementation of the RAP, ELSCC will visit 30% of all the affected enterprises and 25% of all the affected households.
- (3) Data and information will be collected by the following methods:
 - (a) Disseminate questionnaires to the relevant institutions, enterprise and families to be answered by individuals and filled out by appointed personnel;
 - (b) Pay direct visit to the PAPs;
 - (c) Organize special groups to visit and study the affected PAPs so as to find out problems.
- (4) The collected data and information will be analyzed according to the impacted area, resettlement site, time and type of the impact, compensation level, and duration of the whole resettlement course, etc..
- (5) ELSCC will maintain a database composed of data and information collected for various reports. There will be a separate record for every affected family and enterprise. The database will be continuously renewed according to the latest information.

Monitoring Report

After the RAP is carried out, the independent monitor will compile an external monitoring report every 6 months based on the internal monitoring report. The external monitoring report will compose of a quantitative part (in order to verify the data and information provided in the internal monitoring report) and a qualitative part (see the above). The report will be duly submitted to the World Bank. The daily monitoring report will consists of 5 parts:

- (1) Verifying the implementation of the RAP;
- (2) Reviewing whether the compensation, resettlement arrangement and rehabilitation measures have met the major objectives stipulated in the RAP;

- (3) Reporting the participation and satisfaction degree of the PAPs on the resettlement program;
- (4) Identifying the main problems in carrying out the RAP and raising suggestions on solving problems and improving the overall efficiency of the land acquisition and resettlement program.
- (5) The Resettlement Team and the Coordination Group's action and policy as reactions to the proposals in the last report.

After the monitoring report is submitted, the team shall convene a meeting immediately to discuss the report, and according to the problems raised in the report, decide what measures will be taken in the future.

Appendix1: Map of Location of the Project