The World Bank Loan
Hebei Urban Environment Project

Resettlement Action Plan
For Urban Environment Project
of Tangshan City

Urban Environment Project Office of Tangshan City
November 1999
# Table of Contents

1. Introduction ........................................................................................................... 1
   1.1 Brief Description of Project ............................................................................. 1
   1.2 Areas Affected by and benefit from the Project .............................................. 4
   1.3 Socioeconomic Background of the Project Area .............................................. 5
   1.4 Efforts to Minimize Resettlement and its Impact ............................................ 6
   1.5 Technical and Economic Feasibility Research ................................................. 7
   1.6 Design Procedure of the Project ..................................................................... 8
   1.7 Project Ownership and Organizations ............................................................ 9
   1.8 Socioeconomic Survey .................................................................................... 10
   1.9 Preparations made for the RAP ..................................................................... 12
   1.10 Contract Signing, Construction and Implementation Schedule of the Project . 12
   1.11 Laws and Regulations on Compensation and Relocation ............................. 13

2 Project Impacts ........................................................................................................... 14
   2.1 Impacts of Xijiao No2. Wastewater treatment plant Project ........................... 14
   2.2 Impacts of Water Supply Project of City Center ............................................. 16

3. Legal Framework ...................................................................................................... 23
   3.1 Laws and Regulations ..................................................................................... 23
   3.2 Policies on Relocation and Compensation ..................................................... 28
   3.3 Standards of Relocation and Compensation .................................................... 28
       Type ...................................................................................................................... 30

4. Implementation Plan for Resettlement and Rehabilitation ..................................... 32
   4.1 Implementation Plan for Resettlement and Rehabilitation of No. 2 Wastewater Treatment Plant Project ................................................................. 32
   4.2 Implementation Plan for Resettlement and Rehabilitation of Water Supply Project of City Center ................................................................. 35

5. Budget for Compensation ....................................................................................... 40
   5.1 Fund Flow ....................................................................................................... 40
   5.2 Basic Costs ..................................................................................................... 42
   5.3 Management fee ............................................................................................. 42
   5.4 Contingencies ................................................................................................ 43
   5.5 Cost of Survey and Design ............................................................................. 43
   5.6 Monitoring and Evaluation Costs ..................................................................... 43
   5.7 Total Costs ...................................................................................................... 44
   5.8 Annual Investment Plan .................................................................................. 46

6. Implementation Schedule of Resettlement Activities ............................................ 47
   6.1 Join of Resettlement Implementation and Project Construction ....................... 47
   6.2 Implementation Schedule of Resettlement ....................................................... 49

7. Organizations .......................................................................................................... 53
   7.1 Organizational Framework ............................................................................. 53
   7.2 Responsibilities ............................................................................................... 54
   7.3 Staffing ............................................................................................................ 59
   7.4 Organization Chart ........................................................................................ 61
   7.5 Measures to Strengthen Organizational Capacity .......................................... 62
7.6 Working Routine of Land Acquisition, House Demolition and Resettlement Implementation

8. Participation and Consultation

9. Grievances and Appeals

10. Monitoring

10.1 Internal Monitoring and Supervision

10.2 Independent Monitoring

11. Report

11.1 Internal Report

11.2 Report Responsibilities of Project Offices

11.3 Report Responsibilities of Independent Monitoring Organization

12. Entitlement Matrix

ANNEX

Annex A The General Outline of the Independent Monitoring and Evaluation on Urban Environment Project of Tangshan City

Annex B Sketch Map of Land Acquisition, House Demolition and Resettlement of Xijiao No.2 Wastewater Treatment Plant Project

Annex C Sketch Map of Land Acquisition, House Demolition and Resettlement of City Center Water Supply Project
1. Introduction

1.1 Brief Description of Project

Hebei Urban Environment Project consists of three sub-projects, namely Urban Environment Project of Tangshan City, Wastewater Treatment Project of Shijiazhuang City and Urban Environment Project of Handan City. Urban Environment Project of Tangshan City itself includes two parts, Xijiao NO.2 Wastewater Treatment Plant Project and City Center Water Supply Project of Tangshan City.

1.1.1 Brief Description of Xijiao No2. Wastewater Treatment Plant Project

The project includes:

- **NO.2 Wastewater Treatment Plant**
  
  It lies in the southwest of Tangshan City and is near to Xijiao NO.1 Wastewater Treatment Plant. This project covers 175.5mu of land space and involves in 180m² of vacant house demolition.

- **Wastewater pipe network system**
  
  On the basis of making full use of existing sewage pipe network, two additional sewage trunk pipe-lines will be built in the near future. One trunk pipe-line (trunk pipe-line I) begins at Xiangyun Road, extends to Xinyuan Road along Weiguo Road from north to south, then stretches further along Xinyuan Road from east to west to Guihua Road lying west of Guangming Road and turns south to Beixin Road. After it converges on trunk pipeline from west to east, the sewage is transported into Xijiao No.1 and No.2 Wastewater
Treatment Plant along GuangMing Road south to NanXing Road. It mainly receives the sewage from the starting section of new airport district and the north section of established west district, while it amounts to 6.57Km long. The other (trunk pipe-line II) begins at Chezhan Road, extends to Wenhua Road along Xinhua Road from east to west, then makes a left at Guofang Road and heads straight up Guofang Road west till hit Guangming Road, and turns to Nanxinxi Road. At Nanxinxi Road, the sewage in trunk pipe-line II and in the trunk pipe-lines converges, and the wastewater is transported south into Xijiao NO.1 and No.2 wastewater treatment plants in the end. Trunk pipe-line II is 6.54 Km long in total and mainly receives the sewage from established west district and west station district.

As for land use, Xijiao NO.2 Wastewater Plant covers 175.5 mu of area including 105.5mu of wasteland and 70 mu of peach orchard. There are 205 persons affected by the project.

1.1.2 Brief Description of City Center Water Supply Project

The project includes:

- **Pump Station**

  It is located in Douhe reservoir and approximately 350m away from the site at which the water diverted from Luan River enters into the reservoir. Its building area is 954m², while there are totally 26.46mu of land requisitioned for the project including 5.54mu for land pump station, 9mu for diversion canal, 5.0mu for road and 6.92mu for side slope.

- **Water Delivery Pipe-line**

  It amounts to 19Km long. The DN1400MM prestressed reinforce
concrete pipe is used for water delivery.

- Water purification plant
  It is located at the intersection of Daqing Road and Xueyuan Road, in the northwest of the city center. There are 174.32mu land requisitioned for it.

- Distribution Pipe-line
  The main trunk pipeline amounts to 6.5Km long, and the pipes are DN1200MM steel tubes. In addition, 2.3Km of pipeline in water distribution network will be reformed with DN300–DN600 nodular cast iron pipes.

  The project requisitions 200.78mu of land space, and the total building area is 12,176m². The investment of 2365yuan per cubic meter will be made in the project.

  Land acquisition and house demolition of the project involves 4 districts and 1 county in Tangshang City, and 200.78mu of land will be requisitioned for Water Supply Project. Besides, there will be 1,146.56mu land for temporary land use. 990m² of brick-concrete houses will be demolished. In this project, 225 persons will be affected by land acquisition, while 1,485 persons will be affected by temporary land use.

  The total population adversely affected by land acquisition for Urban Environment Project of Tangshan City is 430.

Xijiao NO.2 Wastewater Treatment Project is to start in July 2000, and to be completed in July 2004.
City Center Water Supply Project is to start in July 2000 and to be completed in December 2003.

1.2 Areas Affected by and benefit from the Project

All the areas affected by and benefit from Xijiao NO.2 Wastewater Treatment Plant Project are located in the city proper of Tangshan City. The areas affected by the project include Xiejiazhuaing Village of Guoyuan Township in Lubei District and some city roads. The areas benefit from the project amounts to $29.84\text{Km}^2$ including $22.22\text{Km}^2$ in established west district of city center (Lunan District and Lubei District), $3.03\text{Km}^2$ in West Station District and $4.59\text{Km}^2$ in stating section of new airport district. The designed treatment capacity of the plant is $120,000\text{m}^3$/day.

Due to population growth and economic development, the quantity of sewage coming from the west section of city center of Tangshan City has already exceeded the load capacity of the existing water disposal system. As a result, Qinglong River, flowing through this region, has been seriously polluted. Thus does harm to the people who living in this region. The project is of great importance to the completion of sewage piping system of the west section of the city center, improvement of living conditions, adaptation to the open policy and rapid development of economy of Tangshan City.

The areas adversely affected by City Center Water Supply Project include four district and 1 county, namely Kaiping District, Xin District, Lubei District, High Technique Development Zone and Fengrun County. The areas benefited by the project are located in the city center and include Lubei District, Lunan District and High Technique Development Zone. In recent years, with population growth, development of industry and commerce and
improvement of living conditions, water demand of the city center is increasing year by year. Thus intensifies the problem of insufficient water supply. It is predicted that maximum daily water demand in 2000 will be 471,900M$^3$, and there will be 91,900M$^3$ of water deficiencies according to the present level of water supply system. Therefore, this project is very important for economic development of Tangshan City, meeting the needs of raising living standard, perfecting urban infrastructure, reducing the overall recovery of groundwater and improvement of investment environment.

1.3 Socioeconomic Background of the Project Area

Tangshan City, lying at the vital communications line linking North China and northeast part of China, is located in the east of North China Plain. The city is bounded on the west by Tianjin City, faces the Bo Sea on the east, lies to the south of Yan Mountain and links up with Qinghuangdao City on the east with Luan River and Qinglong River as boundary line. Its geographical coordinates are E117.31'~119.19', N38.55'~40.28'.

The city proper of Tangshan City has taken shape and developed based on the exploitation of Kailuan Coalfield. Tangshan City, the important energy and raw and semi-finished materials base in China, is the passage leading to Bo Sea for North China. It is also the grain base for the east of Hebei Province and the farming and side-line production base for North China and the northeast of China. After the earthquake in 1976, economic development of Tangshan City has been accelerated partly due to highly effective reconstruction and restoration. At present, Tangshan City includes 3 cities, 5 districts (Lunan District, Lubei District, Kaiping District, Guzhi District and Xin District) and 7 counties. Its total area is 13,472Km$^2$ with the total population of 6760000. The area of the city proper is 1,090Km$^2$ with 1570000
people. And the city center of Tangshan includes Lubei District and Lunan District. The area is about 70Km$^2$ with 565000 people. In 1997, The GNP is 71.08 billion yuan and per capita GNP is 10,000 yuan.

1.4 Efforts to Minimize Resettlement and its Impact

1.4.1 Site selection

The selection of project site is based on the alignment option that minimal resettlement, cultivated land acquisition and house demolition will take place.

The location of NO.2 Wastewater Treatment Plant is adjacent to that of NO.1 plant. Most lands requisitioned for the project are wasteland and farmland. 180m$^2$ of vacant houses will be demolished.

The selection of water purification plant location should take two factors into account. One, it will be convenient to water distribution. Two, minimal land acquisition and house demolition will take place. The plant is located in the district without residents, and the land requisitioned for it is farmland (irrigated land).

1.4.2 Design of pipe-line route

The arrangement of pipeline has been optimized in order to avoid villages, enterprises and institutions and reduce the quantity of demolition to minimum.

There are only 180m$^2$ of vacant houses to be demolished in Wastewater
Treatment Plant Project, and the quantity of demolition in Water Supply Project is 990\text{m}^2. Neither of the projects involves the demolition of enterprises and institutions.

In addition, the way of reconstruction before demolition is to be adopted in the implementation of resettlement so that the PAPs can move into the new houses directly or transition period can be shorten.

1.4.3 Improvement of construction procedure

The project program should be optimized to reduce the adverse impact to the residents to minimum.

The construction of sewage pipe may interfere with the urban traffic, so effective measures such as stopping building in peak hours should be taken to reduce the adverse impact on traffic.

The project program of Water Supply Project should be optimized to reduce the temporary land use, grain loss and economic loss of the PAPs to minimum. The unit in charge of construction is fully responsible for land leveling and giving back the temporarily requisitioned land to its owners as soon as possible when the project is finished.

1.5 Technical and Economic Feasibility Research

Shanghai Municipal Engineering Design Institute has undertaken the pre-feasibility research of Xijiao NO.2 Wastewater Treatment Plant Project and has already finished the relevant report in January 1997 and submitted it for approval. In May 1999, Shanghai Municipal Engineering Design Institute
finished the feasibility research work.
North China Municipal Engineering & Design Institute has undertaken the pre-feasibility research of City Center Water Supply Project and has already finished the relevant report in February 1997 and submitted it for approval. In May 1999, the institute has finished the feasibility research of the project.

1.6 Design Procedure of the Project

Led by Foreign Capital Utilization Office of Tangshan City, Tangshan Sewage Treatment Ltd. and Tangshan Tap Water Company put forward project proposals of the two projects separately in May 1996 and submitted to the department concerned for examination. The project proposals were submitted to State Planning Committee for examination and approval in August 1996.

In November 1996, Urban Construction Bureau of Tangshan City, Tangshan Sewage Treatment Ltd. and Tangshan Tap Water Company entrust Shanghai Municipal Engineering Design Institute and North China Municipal Engineering & Research Institute with the tasks such as undertaking the feasibility of the projects, detailed project design and so on. The institutes completed the general outlines of the pre-feasibility research reports one after another in December 1996, while the corresponding reports are finished in January and February 1997. According to the needs of Hebei Project Office, the feasibility reports and detailed project design will be finished by stages.

Entrusted by Tangshan Sewage Treatment Ltd. and Tangshan Tap Water Company, Assessment Center of Environmental Science Institute of China undertook the work of environmental impact assessment of the projects in

In May 1998, before evaluation, China International Project Consultant Company studied the pre-feasibility research reports and project proposals of each sub project of Water Supply and Environment Protection Project of Hebei Province. In the last six months of 1998, French consultant experts examined and revised the pre-feasibility research reports and project proposals of each sub project of Water Supply and Environment Protection Project of Hebei Province to meet the demands of the World Bank. In March 1999, experts from the World Bank carried out a pre-evaluation. In May 1999, they finished the feasibility report of the project.

1.7 Project Ownership and Organizations

The project is an urban infrastructure construction project managed by Tangshan City Government. The construction funds are composed of two parts, domestic funds and the World Bank loan. The total investment of 260,000,000 yuan will be made in Xijiao NO.2 Wastewater Treatment Plant Project including domestic funds of RMB 135,500,000 yuan and the World Bank loan of 15 million USD. The total investment of RMB 354.80 million yuan will be made on City Center Water Supply Project including domestic funds of RMB 184.57 million yuan and the World Bank loan of 20.51 million USD.

Urban Environment Project Office of Tangshan City (UEPO) is responsible for the construction of the project.

UEPO is responsible for the implementation of land acquisition, house
demolition and resettlement of the project, while Land Administration Bureau of relevant counties and districts and House Demolition Office of Tangshan City are in charge of the specific work of land acquisition, house demolition and relocation. Besides, Land Administration Bureau of Tangshan City is in charge of the supervision of land acquisition and house demolition of the project.

1.8 Socioeconomic Survey

1.8.1 Socioeconomic Survey of Xijiao No.2 Wastewater Treatment Plant Project

In November 1996, UEPO and House Demolition Office of Tangshan Sewage Treatment Ltd. made a preliminary survey of the land acquisition and house demolition of the project and found out the scope of land acquisition and the lands, buildings and attached facilities in the scope. According the survey, they worked out a tentative resettlement scheme.

In July 1998, House Demolition Office of Tangshan Sewage Treatment Ltd. surveyed the scope of area affected by the project again to get further details of land acquisition and house demolition for the feasibility study on the project.

From September 20 to September 29 in 1998, UEPO and Tangshan Sewage Treatment Ltd. arranged for people to make a survey of the lands, buildings and attached facilities once again and made a sampling survey of the PAPs' opinions (10 households were surveyed) at the same time.
The quantity of land acquisition and house demolition will be measured and verified on the spot before the implementation of each subproject.

As the area affected by the project is quite small, socioeconomic survey of the project has been completed by UEPO and Tangshan Sewage Treatment Ltd.. The results of the survey will be listed in the report.

1.8.2 Socioeconomic Survey of City Center Water Supply Project

In April 1997, UEPO and Tangshan Tap Water Company made a preliminary survey of land requisitioned, house and attached facilities demolished for the delivery pipeline, water purification plant and distribution piping. The quantity of land acquisition and house demolition was gotten based on the survey.

In July 1998, Tangshan Tap Water Company arranged for personnel to surveyed the scope of area affected by the project again to get further details of land acquisition, temporary land use and the demolition of house and attached facilities for the feasibility study on the project.

From September 20 to September 29 in 1998, UEPO and Tangshan Tap Water Company make a survey of the lands, buildings and attached facilities once again and made a sampling survey of the PAPs' opinions (10 households were surveyed) at the same time.

174.32 mu of cultivated lands of Wangjuanzi Village in Lubei District will be requisitioned for the construction of water purification plant of City Center Water Supply Project, and 26.46 mu of cultivated lands of Shuangmiao Village in Liyun County will be requisitioned for water
source. The lands affected by the construction of delivery and distribution piping will only be used temporarily. Moreover, the land for temporary use is strip-distributed. So the project has little impacts on the relevant villages. The socioeconomic survey of the project has been conducted by UEPO and Tangshan Tap Water Company. The results of the survey will be listed in the report.

1.9 Preparations made for the RAP

The preparations made for the RAP of the project began in January 1997 and have been listed in the feasibility pre-study report of the project. According to the needs of the World Bank, the measurement and verification of the quantity of lands, houses and attached facilities affected by the project were made in July 1997 and September 1998 separately, and UEPO discussed the resettlement scheme with land administration departments at the same time. The report on the RAP (draft) was finished on October 10, 1998. And in September 1999, RAP (for examination) was finished.

The report on the RAP was completed by UEPO.

NRCR is responsible for the independent monitoring and evaluation of the project.

1.10 Contract Signing, Construction and Implementation Schedule of the Project

Land acquisition and house demolition is to start in March 2000, and the project construction is to begin in July 2000. Each subproject
construction will be carried out by stages. According to the construction schedule of each subproject, land acquisition, house demolition and resettlement action should be completed one month before civil engineering work.

1.11 Laws and Regulations on Compensation and Relocation

- Land Administration Law of the P.R.C (revised on August 19, 1998)
- Urban Real Estate Administration Law of the P.R.C (went into effect on January 1, 1995)
- Enforcement Regulations of Tax of Cultivated Land Use of Hebei Province (Jizhen(1987)No.37)
- The Notice of Hebei Province Land Administration Bureau Regarding Tightening up the Management of Temporary Land Use (Jizhen (1996) No.55)
- Detailed Enforcement Regulations of Urban House Demolition Administration of Tangshan City (July 13, 1994)
- Guideline OD4.30 of the World Bank
2 Project Impacts

2.1 Impacts of Xijiao No2. Wastewater treatment plant Project

2.1.1 Land Use

Xijiao No.2 Wastewater Treatment Plant is located to the south of Xijiao No.1 Wastewater Treatment Plant. With farmlands bounded on the other directions, it faces Qinglong River on the east and is bounded on the north by Guihua Road. According to the project construction, at present it is necessary to requisition 70mu of orchard and 105.5mu of wasteland of Xiejiazhuan Village in Guoyuan Township of Lubei District, while 180m$^2$ of brick-concrete houses, 6,087 fruit trees, 5 10KV poles, 33 380V poles and 1 transformer will be affected.

The sewage pipe network of the project will be built on the basis of renovating and expanding existing pipe system of established west district. The pipelines are to be laid from east to west or from north to south. In addition, two additional trunk sewage pipelines are to be constructed. One runs along Xingyuan Road, the other along Xinhua Road and Guofang Road.

The trunk pipe-line (trunk pipe-line I) running along Xingyuan Road begins at Xiangyun Road, extends to Xinyuan Road along Weiguo Road from north to south, then stretch further along Xinyuan Road from east to west, hits Beixinxi Road at Guihua Road lying west of Guangming Road and joins with a trunk pipeline running from west to east. After that, the pipeline runs along Guanming Road till hit Nanxinxi Road. Then it enters into Xijiao No.1 and No.2 wastewater treatment plants. The pipeline, lying 3~5 meters under the ground, amounts to 6.57Km long and is laid using DN400~DN1200 tube. The other (trunk pipe-line II) begins at Chezhan Road, extends to Wenhua Road along Xinhua Road from east to west, then make a left at Guofang Road and head straight up Guofang Road west till hit Guangming Road, and turns to Nanxinxi Road. At Nanxinxi Road,
the sewage in trunk pipe-line I and in the trunk pipe-line that comes from west station district converges on trunk pipe-line II, and the wastewater runs into Xijiao NO.2 wastewater treatment plant in the end. Lying 3~5 meters under the ground, trunk pipe-line II is 7.32Km long in total and laid using DN400~DN1500 tube.

2.1.1 Impact Analysis

Land acquisition for the plant will affect Xiejiazhuang Village of Guoyuan Township in Lubei District of Tangshan City. There are totally 1,428 persons from 545 households in the village in which 1,261 persons are agricultural population, making up 88.3% of the total population; 167 persons are non-agricultural population, making up 11.7% of the population. They also include 645 men making up 45.1% of the total population and 783 women making up 54.9% of the total population. Besides, there are totally 430mu of cultivated land in the village including 240mu of garden plot. The per capita average net income of the village is 2,500 yuan in which agricultural income makes up 20% of the total income and non-agricultural income makes up 80% of the total income. The requisition of 105.5mu wastelands will not affect the life of the villagers, while the requisition of 70mu orchard will directly has adverse impact on 205 villagers who making a living on the garden plots requisitioned. The direct economic loss resulting from the requisition of garden plots is RMB 245,900 yuan.

There are 11 main roads affected by the pipeline laying of the project including 3 trunk roads, namely Jianshe Road, Xinhua and Guangming Road. The project construction will has adverse impacts such as traffic block on the urban traffic since there is heavy traffic on these roads. Some of the sewage pipes will be laid down along the middle of the roads, which will not cause land acquisition and demolition but traffic block cannot be avoided. However, all of the impacts will last until the completion of construction. Detailed information on the roads affected is shown in Table 2-1.
In addition, there will be quite a little smoke, dust, noise and sanitary garbage in the construction zone. Measures should be taken to alleviate these adverse impacts.

The project will not have direct impacts on the houses and attached facilities of residents.

According to the relevant provisions of Land Administration Law of P.R.C, the lands can be assigned for urban infrastructure construction and public welfare facilities in the name of the law. Thus, lands used for regional pipeline network construction do not need requisition.

2.2 Impacts of Water Supply Project of City Center

The project includes:

- Diversion channel
- Pump station
- Chlorine dioxide preparation workshop
- 19Km of Water delivery pipeline.

It is made of DN1400MM prestressed reinforced concrete pipes.

- Water purification plant

It is located at the intersection of Daqing Road and Xueyuan Road. There are water purification structures, sludge disposal structures, auxiliary production facilities and living facilities in it.

- 6.5 KM of main distribution pipeline made of DN1200MM steel tubes
- 2.3Km of DN300~DN600 distribution pipe network is to be renovated.

Distribution pipe network will be in Xueyuan Road, Yongqing Road, and Xiangyun Road. Land acquisition is not necessary. Neither is demolition. But the Roads Management Department should be compensated for reconstructing the damaged roads.

Lands requisitioned for the project include:

- Land requisitioned for the diversion channel
- Land requisitioned for the side slope
• Land requisitioned for the pump station
• Land requisitioned for well room of the delivery pipeline
• Land requisitioned for the roads
• Land requisitioned for the water purification plant

Lands for temporary use include:
• Land dug for pipe-laying
• Land for earth deposit
• Land piled with tubular goods
• Land for temporary roads

The areas adversely affected by the project include 5 districts (Kaiping District, Xin District, Fengrun District, Gaoxin District and Lubei District), 4 townships and 25 villages. Totally, 200.78mu of lands will be requisitioned for the project including 9mu for the diversion channel, 5.54mu for the pump station, 6.92mu for side slopes of the diversion channel, 5mu for roads and 174.32mu for the water purification plant. Besides, the land requisitioned mainly belongs to Shuangmiao Village of Liyuan Township in Kaiping District and Wangjuanzi Village of Jiatun Township in Lubei District. The total population affected by land acquisition is 225. The land for temporary use is quite scattered, and the project involves 25 villages. There are 1,485 persons affected by temporary land use. The influence degree of temporary land use is 1%~21%. In addition, the adverse impacts will last a few months, and the affected villagers will be arranged for to start afresh cultivating the soil when the construction is completed. So the temporary land use of the project will have little impact on the socioeconomic conditions of the PAPs.

990m² of brick-concrete house will be demolished in the area affected by the project including 115m² brick-concrete houses of 6 shops with 10 staff members and 875m² brick-concrete houses of 64 persons from 16 households. See Table 2-
2 for the shops affected by the project. See Table 2-3 for the cultivated lands and houses affected by City Center Water Supply Project.

Table 2-1 Roads Affected by Sewage Pipe Network System

<table>
<thead>
<tr>
<th>Name of Roads</th>
<th>Pipe Diameter Unit: mm</th>
<th>Pipe Length Unit: m</th>
<th>memos</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guangming Road</td>
<td>1200</td>
<td>1790</td>
<td></td>
</tr>
<tr>
<td>Nanxin Road</td>
<td>600-1000</td>
<td>3216</td>
<td></td>
</tr>
<tr>
<td>Youyi Road</td>
<td>300-400</td>
<td>1250</td>
<td></td>
</tr>
<tr>
<td>Dali Road</td>
<td>400-600</td>
<td>2206</td>
<td></td>
</tr>
<tr>
<td>Xueyuan Road</td>
<td>300-500</td>
<td>1740</td>
<td></td>
</tr>
<tr>
<td>Weiguo Road</td>
<td>500-600</td>
<td>2100</td>
<td></td>
</tr>
<tr>
<td>Xinhua West Road</td>
<td>300-1000</td>
<td>5440</td>
<td>The pipes will be laid down along the middle of the roads, so land acquisition and demolition can be avoided.</td>
</tr>
<tr>
<td>Jieshe Road</td>
<td>300-500</td>
<td>2255</td>
<td></td>
</tr>
<tr>
<td>Xinyuan Road</td>
<td>500-800</td>
<td>2680</td>
<td></td>
</tr>
<tr>
<td>Guofang Road</td>
<td>300-400</td>
<td>910</td>
<td></td>
</tr>
<tr>
<td>Huayan Road</td>
<td>500-600</td>
<td>900</td>
<td></td>
</tr>
<tr>
<td>No.</td>
<td>Item</td>
<td>Location of Shops (Name of Villages)</td>
<td>Type</td>
</tr>
<tr>
<td>-----</td>
<td>--------------</td>
<td>--------------------------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>1</td>
<td>Small Shop</td>
<td>Qianquanhetou</td>
<td>Commerce</td>
</tr>
<tr>
<td>2</td>
<td>Dental Clinic</td>
<td>Qianquanhetou</td>
<td>Service Trades</td>
</tr>
<tr>
<td>3</td>
<td>Windscreen</td>
<td>Qianquanhetou</td>
<td>Repairing Trades</td>
</tr>
<tr>
<td>4</td>
<td>Laosi Reastaurant</td>
<td>Wangjuanzi</td>
<td>Catering Trades</td>
</tr>
<tr>
<td>5</td>
<td>Yingchun Restaurant</td>
<td>Wangjuanzi</td>
<td>Catering Trades</td>
</tr>
<tr>
<td>6</td>
<td>Xixiu Restaurant</td>
<td>Wangjuanzi</td>
<td>Catering Trades</td>
</tr>
<tr>
<td>Name of (County) District</td>
<td>Name of Township (Town)</td>
<td>Name of Village</td>
<td>Before the Construction</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-------------------------</td>
<td>----------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Population</td>
</tr>
<tr>
<td>Kaiping District</td>
<td>Liyuan Township</td>
<td>Hengzhunxiang</td>
<td>1829</td>
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<td>Liyuan Township</td>
<td>Shuangmiao</td>
<td>2467</td>
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<td>Liyuan Township</td>
<td>Hagezhunxiang</td>
<td>1161</td>
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<td>Xin District</td>
<td>Changzunxiang Township</td>
<td>Wangguanying</td>
<td>626</td>
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<td>Liyuan Township</td>
<td>Xiaoliujia</td>
<td>415</td>
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<td>Liyuan Township</td>
<td>Daliujia</td>
<td>739</td>
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<td>Liyuan Township</td>
<td>Daotou</td>
<td>1066</td>
</tr>
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<td>Liyuan Township</td>
<td>Caozhuang</td>
<td>1057</td>
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<td>Zhaozi</td>
<td>919</td>
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<td>Zhengzunxiangzi Township</td>
<td>Beipuan</td>
<td>541</td>
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<tr>
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<td>Zhengzunxiangzi Township</td>
<td>Renxintun</td>
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<td>Zhengzunxiangzi Township</td>
<td>Angezhuang</td>
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<td>Zhengzunxiangzi Township</td>
<td>Wangqianzhuan</td>
<td>683</td>
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<tr>
<td></td>
<td>Zhengzunxiangzi Township</td>
<td>Zhangzunxiangz</td>
<td>952</td>
</tr>
<tr>
<td>Name of County (District)</td>
<td>Name of Township (Town)</td>
<td>Name of Village</td>
<td>Before the Construction</td>
</tr>
<tr>
<td>--------------------------</td>
<td>------------------------</td>
<td>----------------</td>
<td>------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Population</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zhengzhuangzi Township</td>
<td>Qianquan</td>
<td></td>
<td>670</td>
</tr>
<tr>
<td>Zhengzhuangzi Township</td>
<td>Jiaanzhi</td>
<td></td>
<td>2392</td>
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<tr>
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<td>Zhengzhuangzi</td>
<td></td>
<td>936</td>
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<td>Zhengzhuangzi Township</td>
<td>Shenyizhuang</td>
<td></td>
<td>854</td>
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<tr>
<td>Zhengzhuangzi Township</td>
<td>Linjia</td>
<td></td>
<td>748</td>
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<td>Fengrun County</td>
<td>Dezhouhan</td>
<td></td>
<td>862</td>
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<td>Jubei District</td>
<td>Fujiantun Township</td>
<td>Wangjuanzi</td>
<td>1076</td>
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<td>Jubei District</td>
<td>Fujiantun Township</td>
<td>Wagonanzhuang</td>
<td>1454</td>
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<tr>
<td>Gaotian District</td>
<td>Fujiantun</td>
<td></td>
<td>1207</td>
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<tr>
<td>Jubei District</td>
<td>Fujiantun Township</td>
<td>Zhangsizhuang</td>
<td>1188</td>
</tr>
<tr>
<td>Jubei District</td>
<td>State-owned Land</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jubei District</td>
<td>Fujiantun Township</td>
<td>Beiziyan</td>
<td>3177</td>
</tr>
<tr>
<td>Jubei District</td>
<td>State-owned Land of Daqing Road</td>
<td></td>
<td>22.49</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>30277</td>
</tr>
</tbody>
</table>

***Affected houses in Qianquan Village include shops of 31m², while 84m² of houses affected in Wangjuanzi Village are temporary shops.
The requisition and temporary use of lands will also affect other buildings such as toilets, wells, poles, trees, roads, underground structures and so on. See Table 2-4 for houses and attached facilities affected by City Center Water Supply Project.

Table 2-4 Houses and Attached Facilities Affected by City Center Water Supply Project

<table>
<thead>
<tr>
<th>Item</th>
<th>Unit</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Resident Houses</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Households</td>
<td>household</td>
<td>16</td>
</tr>
<tr>
<td>Population</td>
<td>person</td>
<td>64</td>
</tr>
<tr>
<td>Brick-Concrete Houses</td>
<td>M²</td>
<td>875</td>
</tr>
<tr>
<td><strong>2. Shops</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amount</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Number of Staff Members</td>
<td>Person</td>
<td>10</td>
</tr>
<tr>
<td>Brick-Concrete Houses</td>
<td>M²</td>
<td>115</td>
</tr>
<tr>
<td><strong>3. Attached Facilities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toilet</td>
<td>Toilet</td>
<td>16</td>
</tr>
<tr>
<td>Pigpen</td>
<td>Pigpen</td>
<td>16</td>
</tr>
<tr>
<td>Vegetable Cellar</td>
<td>Cellar</td>
<td>16</td>
</tr>
<tr>
<td>Motor-pumped Well</td>
<td>Well</td>
<td>16</td>
</tr>
<tr>
<td>Arch over gateway</td>
<td>Gateway</td>
<td>16</td>
</tr>
<tr>
<td>10KV Pole</td>
<td>pole</td>
<td>57</td>
</tr>
<tr>
<td>380V Pole</td>
<td>pole</td>
<td>47</td>
</tr>
<tr>
<td>380V Timber Pole</td>
<td>pole</td>
<td>55</td>
</tr>
<tr>
<td>Transformer</td>
<td>Transformer</td>
<td>7</td>
</tr>
<tr>
<td>Well</td>
<td>Well</td>
<td>10</td>
</tr>
<tr>
<td>Open Channel</td>
<td>M²</td>
<td>500</td>
</tr>
<tr>
<td>Road</td>
<td>M²</td>
<td>15000</td>
</tr>
<tr>
<td>Rubble Path</td>
<td>M²</td>
<td>630</td>
</tr>
<tr>
<td>Cinder Path</td>
<td>M²</td>
<td>630</td>
</tr>
<tr>
<td>Grave</td>
<td>Grave</td>
<td>42</td>
</tr>
<tr>
<td>Underground Structures</td>
<td>M</td>
<td>1350</td>
</tr>
<tr>
<td>Electric Cable</td>
<td>Site</td>
<td>30</td>
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<tr>
<td>shorter than 3 cm</td>
<td>Tree</td>
<td>3800</td>
</tr>
<tr>
<td>3-15 cm</td>
<td>tree</td>
<td>2335</td>
</tr>
<tr>
<td>higher than 15 cm</td>
<td>tree</td>
<td>850</td>
</tr>
<tr>
<td>Fruit Tree</td>
<td>Tree</td>
<td>660</td>
</tr>
<tr>
<td>False Indigo Cluster</td>
<td>Clump</td>
<td>25000</td>
</tr>
<tr>
<td>Shrubbery</td>
<td>Clump</td>
<td>7000</td>
</tr>
</tbody>
</table>
3. Legal Framework

3.1 Laws and Regulations

Land acquisition, demolition and resettlement of the project are mainly based on the following laws and policies:

- Land Administration Law of the P.R.C (revised and passed on August 29, 1998)
- Enforcement Regulations of Tax of Cultivated Land Use of Hebei Province
- The Notice of Hebei Province Land Administration Bureau Regarding Tightening up the Management of Temporary Land Use
- Tangshan City Temporary Provisions Regarding the Implementation of Land Administration Law of the P.R.C and Land Administration Rules of Hebei Province
- Urban Real Estate Administration Law of the P.R.C
- Enforcement Measures of Urban House Demolition Administration of Hebei Province
- Detailed Enforcement Regulations of Urban House Demolition Administration of Tangshan City
- OD4.30 of the World Bank

3.1.1 Relevant Provisions of Land Administration Law of the P.R.C

- Article 2:
  The State may, in the public interest, lawfully requisition land owned by collectives.

- Article 47:
  Land requisitioned shall be compensated for on the basis of its original purpose of use.
  Compensation for requisitioned cultivated land shall include compensation for land, resettlement subsides and attachments and young crops on the
requisitioned land. Compensation for requisition of cultivated land shall be six to ten times the average annual output value of the requisitioned land for three years preceding such requisition. Resettlement subsides for requisition of cultivated land shall be calculated according to the agricultural population needing to be resettled. The agricultural population needing to be resettled shall be calculated by dividing the amount of requisitioned cultivated land per person of the unit the land of which is requisitioned. The standard resettlement subsides to be divided among members of the agricultural population needing resettlement shall be four to six times the average annual output value of the requisitioned cultivated land for three years preceding such requisition. However, the highest resettlement subsides for each hectare of the requisitioned cultivated land shall not exceed fifteen times its average annual output value for the three years preceding such requisition.

Standards of land compensation and resettlement subsidies for requisition of other types of land shall be prescribed by provinces, autonomous regions and municipalities directly under the Central Government with reference to the standards of compensation and resettlement subsidies for requisition of cultivated land.

Standards for compensation for attachments and young crops on the requisitioned land shall be prescribed by provinces, autonomous regions and municipalities directly under the Central Government.

For requisition of vegetable plots in city suburbs, the land users shall pay towards a development and construction fund for new vegetable plots in accordance with the relevant regulations of the State.

If land compensation and resettlement subsidies paid in accordance with the provisions of the second paragraph of this Article are still insufficient to help the peasants needing resettlement to maintain their original living standards, the resettlement subsidies may be increased upon approval by people' s governments of provinces, autonomous regions and municipalities directly under the Central Government. However, the total land compensation and resettlement
subsides shall not exceed 30 times the average annual output value of the requisitioned land for the three years preceding such requisition.

The State Council may, in light of the level of social and economic development and under special circumstances, raise the standards of land compensation and resettlement subsidies for requisition of cultivated land.

* Article 48:
Once a plan for compensation and resettlement subsidies for requisitioned land is decided on, the local people’s government concerned shall make it known to the general public and solicit comments and suggestions from the collective economic organizations, the land of which is requisitioned, and the peasants.

* Article 49:
The rural collective economic organization, the land of which is requisitioned, shall accept supervision by making known to its members the income and expenses of the compensation received for land requisition. The compensation and other charges paid to the unit for its land requisitioned is forbidden to be embezzled or misappropriated.

* Article 57:
Where land owned by the State or by peasant collectives needs to be used temporarily for construction of projects or for geologic prospecting, the matter shall be subject to approval by the land administration departments of people’s governments at or above the county level. However, if the land to be temporarily used is located in the area covered by urban planning, the matter shall be subject to agreement by the urban planning administration department concerned before it is submitted for approval. The land user shall, depending on who owns the land and who has land-use right, enter into a contract for the temporary use of the land with the land administration department concerned, or the rural collective economic organization, or the villagers committee and pay compensation for it in accordance with the provisions of the contract.

The temporary land user shall use the land for purposes stipulated in the
contract for temporary use of the land and may not build permanent structures on it.

Generally, the period for temporary use of land shall not exceed two years.

3.1.2 Relevant Provisions of Hebei Province government regarding the Enforcement Regulations of Tax on Cultivated Land Use

Average tax per square meter on cultivated land use is calculated and verified based on cultivated land holdings per capita and economic development level of counties, urban areas and suburbs. The standard of the tax on cultivated land use of this project is 7~8 yuan/m².

3.1.3 Relevant Provisions of the Notice of Hebei Province Land Administration Bureau Regarding Tightening up the Management of Temporary Land Use

Construction of permanent buildings on the land used temporarily is forbidden, and the allotted time for temporary land use should not exceed two years. The land should be restored to its original state and be given back to its owner or original user when the contract expires.

3.1.4 Tangshan City Temporary Provisions Regarding the Implementation of Land Administration Law of the P.R.C and Land Administration Rules of Hebei Province

Young crop compensation is paid for the temporary land use of the project. In addition, the restoration cost that is 1~2 times of annual output value will be paid according to the damage to the land productivity when the contract expires. However, the cost should not exceed 5 times of annual output value.

3.1.5 Relevant Provisions of Urban Real Estate Administration Law of the P.R.C

Allocation of land use right means that the unit who uses the land for project construction can use the land or can get the right of land use free of charge after its land use application is approved by the local government above county level and its land compensation, relocation allowance and other fees have been paid. If the land use right of the following land for construction is really necessary, it can be approved and allocated by the local government above county level:

- Land for urban infrastructure and public facilities
- Land for the state key projects such as energy project, traffic project and water conservancy project.

3.1.6 Relevant Provisions of Enforcement Measures of Urban House Demolition Administration of Hebei Province

If the users of house demolished are to move away only once and settle down, the standard of move allowance for houses demolished is 4~8 yuan per square meter usable area. If the users are to move and stay at transition residences before settling down, the move allowance paid to them is 2 times of that paid to the people moving only once.

If the users of houses to be demolished find temporary residences by themselves or their units during the stipulated transition period, the unit or person who needs to demolish houses for project construction should pay temporary relocation allowance that is 1~4 yuan each month per square meter usable area to the users of houses to be demolished or their units.

3.1.7 Relevant Provisions of Detailed Enforcement Regulations of Urban House Demolition Administration of Tangshan City

This detailed enforcement regulations applies to the demolition of houses for urban construction on the state land in Lubei District, Lunan District, Dongkuang District, Kaiping District, Xin District and city planning area of Tangshan city and on the collective land managed through city planning.

Tangshan City puts centralized and unified management of houses in city proper into practice. Real Estate Administration Bureau of Tangshan City is the department in charge of house demolition, and House Demolition Office of Tangshan City responsible for the house demolition work is under the control of it.

The unit or person who needs to demolish houses belonging to individual and private enterprises should calculate relevant compensation monthly in accordance with the per capita wage with tax of registered staff and pay lump-sum compensation to the legal operator during the period of closure. The per capita monthly wage with tax in compensation calculation is taken as 100 yuan if
the actual wage per capita is less than 100 yuan.

3.1.8 Relevant Provisions of Guideline OD4.30 of the World Bank

The goal of the World Bank policies is to help the PAPs to improve their living standards or at least to restore their former living standards.

PAPs and the persons in resettler community are encouraged to participate in the formulation of resettlement action plan.

3.2 Policies on Relocation and Compensation

Policies on house demolition, relocation and compensation of the project are as following:

- The compensation standards of all property should be fixed in accordance with replacement principle.
- The compensation should be paid before requisition of land and property.
- Project Office of Tangshan City should negotiate with the owners or units affected by the project about the standards of relocation and compensation.
- The compensation for houses affected is calculated in accordance with building area and replacement price of houses.
- It is necessary to offer the agricultural labors to be relocated assistance, training and employment opportunity in order to prevent their living level from decreasing.
- Full compensation for the crops, young crops, trees and other attached facilities should be calculated based on market price.
- Illegal buildings will be compensated properly.

3.3 Standards of Relocation and Compensation

See Table 3-1 for the average annual output value in the last three years of the land requisitioned for the project.

Table 3-1 Average annual output value in the last three years of the land requisitioned
<table>
<thead>
<tr>
<th>Type</th>
<th>Per mu Yield in Kg/mu 1996</th>
<th>Per mu Yield in Kg/mu 1997</th>
<th>Per mu Yield in Kg/μ 1998</th>
<th>Average Yield per mu in the three years Kg/μ</th>
<th>Unit Price yuan/kg</th>
<th>Output Value of Main Product Yuan/μ</th>
<th>Output Value of By-product (yuan/μ)</th>
<th>Average Annual Output Value (yuan/μ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat</td>
<td>336</td>
<td>343</td>
<td>368</td>
<td>349</td>
<td>1.3</td>
<td>453.7</td>
<td>136.3</td>
<td>590</td>
</tr>
<tr>
<td>Maize</td>
<td>385.4</td>
<td>382.1</td>
<td>350</td>
<td>372.5</td>
<td>1.4</td>
<td>521.5</td>
<td>156.5</td>
<td>678</td>
</tr>
<tr>
<td>Average Annual Output Value (yuan/μ)</td>
<td>1268</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Remarks: The output value of by-product is 30 percent of that of main product.

Statistics shows that average output value of orchards in the construction area is 2,342.5 yuan per μ. Taking the difference between the statistics and the actual condition into account, the average annual output value in the last three years of irrigated land in the project site is taken as 1,902 yuan per μ, and that of orchard is 3,513 yuan per μ.

Since the land requisitioned for the project belongs to the suburb of Tangshan City where farm land per capita is quite insufficient, it is difficult to relocate the PAPs. According to Land Administration Law of P.R.C (passed on August 29, 1998), the present land acquisition standards of irrigated land and orchard of Tangshang City, and market comparison theory, the land compensation and relocation allowance for irrigated land of this project is 30 times of the average annual output value of the last three years before land acquisition, while the land compensation and relocation allowance is 20 times of the average annual output value of the last three years before land acquisition. Thus is the basis of determining the standards of land compensation and relocation allowance for land requisitioned.

The tax on cultivated land use is 5,000 yuan/μ. According to Land administration Regulations of Hebei Province, the cost of farmland exploitation is 8000 yuan/μ. The management fee is 4.5% of land acquisition cost and the young crop fee is calculated in accordance with the half of the annual output value. In addition, the compensation standard of wasteland requisitioned is 70,000 yuan/μ. See the Table 3-2 for the standards of land acquisition.
Table 3-2 Compensation Standards of Land acquisition (10^4 yuan/mu)

<table>
<thead>
<tr>
<th>Type</th>
<th>Land Compensation &amp; Relocation Allowance</th>
<th>Cost of Farmland Exploitation</th>
<th>Tax on Cultivated Land Use</th>
<th>Young Crop Fee</th>
<th>Manangement Fee</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irrigated Land</td>
<td>5.71</td>
<td>0.8</td>
<td>0.5</td>
<td>0.0951</td>
<td>0.32</td>
<td>7.43</td>
</tr>
<tr>
<td>Orchard</td>
<td>7.03</td>
<td>0.8</td>
<td>0.5</td>
<td>Calculated Separately</td>
<td>0.37</td>
<td>8.7</td>
</tr>
<tr>
<td>Wasteland</td>
<td>6.72</td>
<td></td>
<td></td>
<td></td>
<td>0.28</td>
<td>7.0</td>
</tr>
</tbody>
</table>

According to the relevant provisions regarding temporary land use of Tangshan City, young crop compensation for the land used temporarily is half of the annual output value, land restoration fee is 1.7 times of annual output value and management fee is 4 percent of young crop compensation and land restoration fee. See the Table 3-3 for the compensation standards of temporary land use.

Table 3-3 Compensation Standards of Temporary Land Use (yuan/mu)

<table>
<thead>
<tr>
<th>Type</th>
<th>Young Crop Compensation</th>
<th>Land Restoration Fee</th>
<th>Management Fee</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irrigated Land</td>
<td>951</td>
<td>3233</td>
<td>167</td>
<td>4351</td>
</tr>
</tbody>
</table>

The compensation standard of house affected is determined in accordance with the replacement price, and the compensation standard of attached facilities affected is determined on the basis of market price. Shops will be compensated according to Detailed Enforcement Regulations of Urban House Demolition Administration of Tangshan City Order No.4 on July 13, 1994 by Tanshan Government. The loss from cessation of production and business and the wages of their employees will also be compensated in light of the shops’ income, taxes and locations, their employees’ wages. See Table 3-4 for the compensation standards of houses and attached facilities to be demolished and resettled.
### Table 3-4 Compensation Standards of Houses and Attached Facilities to be Demolished and Resettled

<table>
<thead>
<tr>
<th>Type</th>
<th>Compensation Standard</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brick-concrete House</td>
<td>250yuan/M²</td>
<td>Replacement price of House</td>
</tr>
<tr>
<td>Move allowance</td>
<td>10yuan/M²</td>
<td>Stipulated by Hebei Province Government</td>
</tr>
<tr>
<td>Transition Fee</td>
<td>24yuan/M²</td>
<td>4yuan/M²/month *6month</td>
</tr>
<tr>
<td>Loss of Closure</td>
<td></td>
<td>According to the actual loss Actual loss is listed in Table 2-1</td>
</tr>
<tr>
<td>Toilet</td>
<td>200yuan/toilet</td>
<td></td>
</tr>
<tr>
<td>Pigpen</td>
<td>300-500yuan/pigpen</td>
<td></td>
</tr>
<tr>
<td>Vegetable Cellar</td>
<td>200yuan/cellar</td>
<td></td>
</tr>
<tr>
<td>Motor-pumped Well</td>
<td>300yuan/well</td>
<td></td>
</tr>
<tr>
<td>Arch over gateway arch</td>
<td>600yuan/gateway arch</td>
<td></td>
</tr>
<tr>
<td>10KV Pole</td>
<td>3000yuan/pole</td>
<td></td>
</tr>
<tr>
<td>380V Pole</td>
<td>1000yuan/pole</td>
<td></td>
</tr>
<tr>
<td>380V Timber Pole</td>
<td>500yuan/pole</td>
<td></td>
</tr>
<tr>
<td>Transformer</td>
<td>50000yuan/transformer</td>
<td></td>
</tr>
<tr>
<td>Well</td>
<td>5000yuan/well</td>
<td></td>
</tr>
<tr>
<td>Open Channel</td>
<td>90yuan/M²</td>
<td></td>
</tr>
<tr>
<td>Road</td>
<td>180yuan/M²</td>
<td></td>
</tr>
<tr>
<td>Rubble Path</td>
<td>70yuan/M²</td>
<td></td>
</tr>
<tr>
<td>Cinder Path</td>
<td>55yuan/M²</td>
<td></td>
</tr>
<tr>
<td>Grave</td>
<td>150yuan/grave</td>
<td></td>
</tr>
<tr>
<td>Underground Structures</td>
<td>68yuan/M</td>
<td></td>
</tr>
<tr>
<td>Electric Cable</td>
<td>6000yuan/site</td>
<td></td>
</tr>
<tr>
<td>Tree</td>
<td>2yuan/tree</td>
<td>Shorter than 3 cm</td>
</tr>
<tr>
<td>Tree</td>
<td>10yuan/tree</td>
<td>3-15 cm</td>
</tr>
<tr>
<td>Tree</td>
<td>100yuan/tree</td>
<td>Higher than 15 cm</td>
</tr>
<tr>
<td>Fruit Tree</td>
<td>800yuan/tree</td>
<td></td>
</tr>
<tr>
<td>False Indigo</td>
<td>10yuan/cluster</td>
<td></td>
</tr>
<tr>
<td>Shrubbery</td>
<td>10yuan/clump</td>
<td></td>
</tr>
</tbody>
</table>
4. Implementation Plan for Resettlement and Rehabilitation

4.1 Implementation Plan for Resettlement and Rehabilitation of No. 2 Wastewater Treatment Plant Project

4.1.1 Resettlement Action Plan for Acquiring collective land

Collective land requisitioned for the project belongs to Xiejiazhuang Village of Guoyuan Township in Lubei District of Tangshan City. The total population of this village in 1998 is 1,428. Most of cultivated land, that is 430 mu including 240 mu orchard, is contracted by the peasants, so the contracted peasants have the right of using the land. The rest of the land, i.e. 70 mu of cultivated land, is still collective land belonging to the village. The net income per capita of peasants in the village in 1998 is 2,500 yuan including agricultural income accounting for 20% of the total net income and non-agricultural income accounting for 80% of the total net income. Requisition of 70 mu orchard will leads to 245,900 yuan of output value lost annually and has adverse impacts on the life habit and production activities of the peasants relying on the orchard to be requisitioned as a means of life. Village Administration Committee (VAC) will allocate the rest of 70 mu cultivated land belonging to the village collective to the PAPs directly affected by the project so that they can have farmland similar to the farmland of other peasants. And VAC will make use of compensation to renovate 70 mu cultivated lands to shed vegetable fields. It is estimated that the investment will be 350,000 yuan, annual output value will be 420,000 yuan. And the net output value will be 168,000 yuan. Considering the fact that the output value of the orchard is 3513 yuan/mu while the output value of shed vegetable is about 6000 yuan/mu, the adverse impacts of land acquisition can be completely
offset. The rest of land compensation, that is 18,195,200 yuan, will be used to develop production and the public facilities in the village. Xiejiazhuang Village is in the Tanshan Urban Development Planning Scope and is very near to the downtown. The Village Committee will make full use of compensation funds for land acquisition and fairly good investment environment to introduce some projects, so that more PAPs will get jobs and their income will increase. The expense of the capital will be discussed and approved by the villagers. The accounts are open to the public.

Full compensation will be paid for the attachments in accordance with market price.

4.1.2 Measures Taken to Avoid, Minimize or Eliminate the Adverse Impact of Pipe Network Construction on Environment

(1) Measures Taken to Minimize Impact on Traffic

Construction of the project will unavoidably affect some roads, and the excavation work will seriously affect the traffic in the relevant region. The project developer has already taken these adverse impacts into account when working out implementation plan. Measures taken to minimize impacts on traffic include:

- As for the roads with heavy traffic, temporarily substitute paths are designed, and the construction is carried out by stages. The work of excavation, pipeline laying and backfill is to be finished as soon as possible.
- As for the roads with heavy traffic, the project construction is stopped in peak hours.

(2) Measures Taken to Alleviating Dust
The clay dug up from the irrigation canals is piled up along the roads, the dust will be raised by the wind and mechanical force in dry season and thus will affect the nearby residents and factories. In order to minimize the impacts of construction on the surrounding environment, it is necessary to sprinkle the mound with water to avoid dust in the construction when it is fine and windy often. The clay dug up will be transport elsewhere and disposed in time, while overload during transportation is forbidden to prevent the arid soil from spilling out of the vehicles on the way. Moreover, before the vehicles leaves the construction site, soil on the wheels should be clean away in order to avoid the arid soil spilling out of the vehicles on the way and affect the environment. At the same time, the construction team should be responsible for the environment sanitation of the roads near the entrance of the construction site and sweep off the spilled soil in time.

(3) Control of the Construction Site Noise

The construction noise results from the excavation of canals, sound from the loudspeaker of transport vehicles, sound of engines, noise of concrete mixer and noise of road roller. In order to minimize the impacts of noise on the surrounding residents, the construction within the region 200M away from the residential area should stop from 11 pm to 6 am, and low-noise construction machinery should be adopted perferentially. If the construction site is near the residential area and the construction must continue at night, measures should be taken to eliminate the noise of construction machinery. In addition, temporary sounder barrier should be set up around the construction site or residential area to ensure the environment quality of residential areas.

(4) Disposal of In-situ Waste in the Construction Site
The project developer and construction enterprise should contact local environment sanitation department in time to get rid of the consumer waste in the construction site and make it clean and tidy.

The living standards and production level of the project PAPs will not decrease due to the rational compensation and well arranged relocation, and effective measures will be taken to eliminate the adverse impact of regional pipeline construction on the surrounding environment.

4.2 Implementation Plan for Resettlement and Rehabilitation of Water Supply Project of City Center

4.2.1 Land Acquisition

Land acquisition for City Center Water Supply Project involves Shuangmiao Village of Liyuan Township in Kaiping District and Wangjuanzi Village of Fujiatun Township in Lubei District of Tangshan City.

26.46 mu of cultivated land in Shuangmiao Village will be requisitioned, and the annual economic loss of the land acquisition is 50,300 yuan. The land to be permanently requisitioned accounts for 1.23% of the total cultivated land, while 21 persons will be affected by the land acquisition. The resettlement plan is:
- VAC of the village will allocate collective land to the PAPs directly affected by the project so that they can have cultivated land similar to that of other peasants. Cultivated mu per capita of the village after land acquisition is 0.01mu less than that before land acquisition.
1.511,000 yuan of land compensation and relocation allowance will be paid to the village collective. VAC will allocate the land compensation and relocation allowance to the adjustment of industrial structure and the development of high economic value industries with the permission of two-thirds of the villagers. The village is located at the end of Douhe Reservoir, where there is much water resource that can be used. After discussion by all the villagers, 20 mu of the waste land will be exploited to develop aquatic products industry. It is estimated that 300,000 yuan will be invested and the annual output value is 200,000 yuan. The net output value is 100,000 yuan excluding the cost. That is enough to offset the land loss. The rest of land compensation will be used to develop production and the public facilities in the village. Expenses of the capital will be discussed and approved by the villagers meeting. The accounts are open to the public.

174.32 mu of cultivated land in Wangjuanzi Village will be requisitioned, and the annual economic loss of the land acquisition is 331,600 yuan. The land to be permanently requisitioned accounts for 18.0% of the total cultivated land, while 194 persons will be affected by the land acquisition. The resettlement plan is:

- VAC of the village will allocate collective land to the PAPs directly affected by the project so that they can have cultivated land similar to that of other peasants. Cultivated land per capita of the village after land acquisition is 0.74 mu, which is 0.16 less than that before land acquisition.

- 9,954,000 yuan of land compensation and relocation allowance will be paid to the village collective. VAC will allocate the land compensation and relocation allowance to the adjustment of industrial structure and the development of high economic value industries with the permission of two-thirds of the villagers. The village lies in Lubei
District of Tangshan and is very near to Tangshan High Technology Development Zone. In Tangshan General Plan, it is to be developed. The village plans to develop 215 mu of shed vegetable fields after land acquisition, that is to say, the land of per person is 0.2 mu. It is estimated that 1,075,000 yuan will be invested, the annual output value is to be 1,290,000 yuan, net annual output value is to be 490,000 yuan excluding the cost. That is enough to offset the adverse impacts. The rest of land compensation will be controlled by the collective to develop the production and the public facilities. For example, if there are scientific results to be transferred in the High-tech Zone, the village will make use of the opportunity to establish companies. Thus the collective economy will be developed and the income of the villagers will increase. See Table 4-1 for the change in farm land per capita of the two villages before and after land acquisition.

Table 4-1 Change in Farm Land per Capita of the Two Villages Before and After Land Acquisition

<table>
<thead>
<tr>
<th>Name of Village</th>
<th>Before Land Acquisition</th>
<th>After Land Acquisition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Population (person)</td>
<td>Cultivated Land (mu)</td>
</tr>
<tr>
<td>Shuangmiao Village</td>
<td>2467</td>
<td>2145</td>
</tr>
<tr>
<td>Wangjuanzi Village</td>
<td>1076</td>
<td>968.5</td>
</tr>
</tbody>
</table>

4.2.2 Temporary Land Use

Temporary land use of the project involves 5 districts, 4 towns and townships and 25 villages. The land used temporarily for the project amounts to 1,146.56 mu. The annual economic loss of temporary land use
is 2,181,000 yuan if it is calculated in accordance with annual output value. The lands used temporarily distribute themselves in the 25 villages, and the effect degree of each village caused by temporary land use is between 1% and 20%. Generally, the land used by the project will be cultivated again after 12 months.

The compensation standard of temporary land use is 4,184 yuan/mu, and the total compensation is 4,797,000 yuan which is more than the economic loss. The young crop compensation is paid directly to the PAPs affected, and other compensation is used to cultivate the land after temporary land use and maintain the income level of PAPs.

The villages affected and Tangshan Tap Water Company have already reached a tentative agreement on the restoration of the land affected. The main contents of the agreement include:

- The construction team is responsible for bulldozing the mounds, loosening the soil rammed by construction machinery and leveling the lands.
- Tangshan Tap Water Company is responsible for paying the cost of cultivating the land again to the villages.
- Each Village itself is responsible for the water conservancy facilities and soil improvement.

The above contents will be written into the agreement on temporary land use for the purpose of making the responsibilities of the parties concerned clear and ensuring the re-cultivation of the land used for the project temporarily.

4.2.3 Residential Buildings affected

There are 16 households whose houses are to be demolished in the project
site including 6 households of Shuangmiao Village in Liyuan Township with 270m² of brick-concrete houses to be demolished and 10 households of Qianquan Village in Zhenzhuangzi Township with 605m² of brick-concrete houses. The area of brick-concrete houses amounts to 875m². The PAPs whose houses are to be demolished will build their houses by themselves after obtaining the house compensation in accordance with its replacement price. In Shuangmiao Village the foundation area and location of new houses are appointed by VAC, and the new houses are located in the village. However, Qianquan Village should build houses 5m away back from the original site.

4.2.4 Shops Affected

3 shops in Qianquan Village of Zhenzhuangzi Township will be affected by pipeline laying, and 32m² of brick-concrete houses are to be demolished as a result. 3 shops in Wangjuanzi Village will be affected by the construction of water treatment plant, and thus 84m² of brick-concrete houses are to be demolished. The owner of the shops affected will get transition subsidy and move allowance as well as house compensation in accordance with its replacement price. The shops will get compensation caused by loss from cessation of business and production. After the completion of pipeline construction, the location of new shops should be 5m away back from the original site, while the operating environment will not change. The operating income of shops affected will be affected during the transition period, but it will recover after reconstruction. They will get compensation to decrease the loss during the period. The owners of the 3 shops affected in Wangjuanzi Village agree to select the location of new shops and reconstruct them by themselves after they get lump-sum compensation fee.
5. Budget for Compensation

All cost incurred in the course of land acquisition, house demolition, restoration of infrastructures, reconstruction of special facilities, and resettlement of relocated people shall be included in the overall budget of the project. To calculate at the price in September 1999, the total cost of land acquisition, house demolition and resettlement of PAPs of No.2 Wastewater Treatment Plant Project is RMB21,445,700, while the total cost of land acquisition, house demolition and resettlement of PAPs of City Center Water Supply Project is RMB29,178,600.

5.1 Fund Flow

Tangshan Sewage Treatment Ltd. and Land Administration Bureau of relevant counties and districts will sign the compensation agreement on permanent land acquisition for No.2 Wastewater Treatment Plant Project, while the compensation agreement on permanent land acquisition for City Center Water Supply Project is to be signed by Tangshan Tap Water Company and Land Administration Bureau of relevant counties and districts. In addition, the compensation agreements on house demolition and relocation are to be signed by House Demolition Office of Tangshan City and the two companies, separately. The temporary land use contracts are to be signed by the villages concerned and the two companies, separately. In the allotted time announced by Land Administration Bureau of Tangshan City for demolition and relocation, the written agreements on land acquisition, house demolition, PAP relocation and relevant compensations should be signed on the basis of the compensation policies and standards of the project for land acquisition, house demolition and resettlement of those resettlers by Land Administration Bureau of relevant counties and districts, the villages whose land will be requisitioned and the PAPs
whose houses are to be demolished.

(1) Permanent Acquisition of Collective Land

Land Administration Bureau of relevant counties and districts should sign the compensation agreement on permanent land acquisition with Tangshan Sewage Treatment Ltd. and Tangshan Tap Water Company, separately, and the two companies should pay the cost of land acquisition in accordance with the agreements. Land Administration Bureau of relevant counties and districts should sign the permanent land acquisition contracts with the villages concerned and paid them land acquisition cost in accordance with the contracts. After getting land compensation, relocation allowance and young crop compensation, the villages will transfer the land requisitioned. The tax on cultivated land use, cost of farmland exploitation and management fee should be paid to the department concerned by Project Office of Tangshan City, while the compensation for attached facilities and young crop should be paid to land contractors or property owners directly.

(2) Temporary Land Use

Tangshan Sewage Treatment Ltd. and Tangshan Tap Water Company should sign the temporary land use contracts for the quantity of land use, construction period and compensation cost (land use fee, young crop compensation, land leveling fee and restoration fee) with the relevant villages, separately. The two companies should pay temporary land use cost in accordance with the contracts.

(3) House Demolition

The compensation agreements on house demolition and relocation are to be signed by House Demolition Office of Tangshan City and the two companies,
separately. The two companies should pay the cost of house demolition and relocation in accordance with the agreements. The contracts for compensation standards and house demolition date should be signed by House Demolition Office of Tangshan City and PAP households, and House Demolition Office should pay the compensation for house demolition and relocation in accordance with the contracts. As for the PAPs whose houses will be demolished and reconstructed by themselves, the foundation area and location of new houses should be allocated by VAC.

(4) Infrastructure

The two companies should negotiate with the owners of infrastructure about the plan for infrastructure restoration and determine the cost of infrastructure reconstruction and restoration, separately. The companies should pay the cost of infrastructure reconstruction and restoration to its owners on the basis of infrastructure restoration progress. The owners are responsible for the reconstruction and restoration of infrastructure demolished.

5.2 Basic Costs

Basic costs include:

- Land acquisition fee
- Temporary land use fee
- Residential house demolition compensation fee
- Shop compensation fee
- Attached facilities compensation fee

5.3 Management fee
3 percent of basic cost should be used as management fee of the organizations in charge of the land acquisition, house demolition and relocation of the project, and it is mainly used for the cost of activities related to the land acquisition, house demolition and resettler relocation of the project such as buying equipment, transportation, having meetings, communication, business trip and handling official business, etc.

5.4 Contingencies

10% of basic cost will be used as contingence cost, which includes contingence cost for materials and price.

- The contingence cost of materials is prepared to pay the additional costs resulted from the changes in project design and the changes in tangible material indices during the implementation period of RAP.
- The contingence cost of price is prepared out of consideration for inflation and changes in price during the implementation period of RAP.

The estimation of the contingence cost mentioned above is based on the price in September 1999.

5.5 Cost of Survey and Design

2% of basic cost is used as cost of survey and design.

5.6 Monitoring and Evaluation Costs

1% of basic cost is spent as monitoring and evaluation costs.
5.7 Total Costs

See Table 5-1 for the general cost of land acquisition, house demolition and PAP relocation of No.2 Wastewater Treatment Plant Project. See Table 5-2 for the general cost of land acquisition, house demolition and PAP relocation of City Center Water Supply Project.

Table 5-1 General Cost of Land Acquisition, House Demolition and PAP Relocation of No.2 Wastewater Treatment Plant Project.

<table>
<thead>
<tr>
<th>Type</th>
<th>Unit</th>
<th>Quantity</th>
<th>Unit Price</th>
<th>Amount of Money</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Land Acquisition</td>
<td></td>
<td></td>
<td></td>
<td>1347.5</td>
</tr>
<tr>
<td>Orchard</td>
<td>Mu</td>
<td>70</td>
<td>87000</td>
<td>609</td>
</tr>
<tr>
<td>Wasteland</td>
<td>mu</td>
<td>105.5</td>
<td>70000</td>
<td>738.5</td>
</tr>
<tr>
<td>2. House</td>
<td></td>
<td></td>
<td>4.5</td>
<td></td>
</tr>
<tr>
<td>Brick-concrete</td>
<td>M²</td>
<td>180</td>
<td>250</td>
<td>4.5</td>
</tr>
<tr>
<td>3. Attached Facilities</td>
<td></td>
<td></td>
<td></td>
<td>496.76</td>
</tr>
<tr>
<td>Fruit Tree</td>
<td>Tree</td>
<td>6087</td>
<td>800</td>
<td>486.96</td>
</tr>
<tr>
<td>10KV Pole</td>
<td>pole</td>
<td>5</td>
<td>3000</td>
<td>1.5</td>
</tr>
<tr>
<td>380V Pole</td>
<td>Pole</td>
<td>33</td>
<td>1000</td>
<td>3.3</td>
</tr>
<tr>
<td>Transformer</td>
<td>transformer</td>
<td>1</td>
<td>50000</td>
<td>5</td>
</tr>
<tr>
<td>Total Basic Cost</td>
<td></td>
<td></td>
<td></td>
<td>1848.76</td>
</tr>
<tr>
<td>4. Management Fee</td>
<td>Basic Cost*3%</td>
<td></td>
<td></td>
<td>55.46</td>
</tr>
<tr>
<td>5. Cost of Survey and Design</td>
<td>Basic Cost*2%</td>
<td></td>
<td>36.98</td>
<td></td>
</tr>
<tr>
<td>6. Monitoring and Evaluation Cost</td>
<td>Basic Cost*1%</td>
<td></td>
<td>18.49</td>
<td></td>
</tr>
<tr>
<td>7. Contingencies</td>
<td>Basic Cost*10%</td>
<td></td>
<td>184.88</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td>2144.57</td>
</tr>
</tbody>
</table>
Table 5-2 General Cost of Land Acquisition, House Demolition and PAP Relocation of City Center Water Supply Project.

<table>
<thead>
<tr>
<th>Type</th>
<th>Unit</th>
<th>Quantity</th>
<th>Unit Price</th>
<th>Amount of Money (10^4 yuan)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Land Acquisition</td>
<td>Irrigated Land</td>
<td>Mu 200.78</td>
<td>74300</td>
<td>1491.80</td>
</tr>
<tr>
<td>Young Crop Compensation</td>
<td>Mu 200.78</td>
<td>951</td>
<td></td>
<td>19.09</td>
</tr>
<tr>
<td>2. Temporary Land Use</td>
<td>Irrigated Land</td>
<td>Mu 1146.56</td>
<td>4351</td>
<td>498.87</td>
</tr>
<tr>
<td>3. Residential Houses</td>
<td>Brick-concrete House</td>
<td>M^2 875</td>
<td>250</td>
<td>21.88</td>
</tr>
<tr>
<td>Move Allowance</td>
<td>M^2 875</td>
<td>10</td>
<td>0.88</td>
<td></td>
</tr>
<tr>
<td>Transition Fee</td>
<td>M^2 875</td>
<td>24</td>
<td>2.10</td>
<td></td>
</tr>
<tr>
<td>4. Shop</td>
<td>Brick-concrete House</td>
<td>M^2 115</td>
<td>250</td>
<td>2.88</td>
</tr>
<tr>
<td>Loss of Closure</td>
<td>M^2 115</td>
<td></td>
<td>3.51</td>
<td></td>
</tr>
<tr>
<td>Move Allowance</td>
<td>M^2 115</td>
<td>10</td>
<td>0.12</td>
<td></td>
</tr>
<tr>
<td>Transition Fee</td>
<td>M^2 115</td>
<td>24</td>
<td>0.28</td>
<td></td>
</tr>
<tr>
<td>5. Attached Facilities</td>
<td>Toilet</td>
<td>16</td>
<td>200</td>
<td>0.32</td>
</tr>
<tr>
<td>Pigpen</td>
<td>Pigpen</td>
<td>16</td>
<td>400</td>
<td>0.64</td>
</tr>
<tr>
<td>Vegetable Cellar</td>
<td>cellar</td>
<td>16</td>
<td>200</td>
<td>0.32</td>
</tr>
<tr>
<td>Pressure-pumped Well</td>
<td>Well</td>
<td>16</td>
<td>300</td>
<td>0.48</td>
</tr>
<tr>
<td>Arch over gateway</td>
<td>Gateway Arch</td>
<td>16</td>
<td>600</td>
<td>0.96</td>
</tr>
<tr>
<td>10KV Pole</td>
<td>Pole</td>
<td>57</td>
<td>3000</td>
<td>17.10</td>
</tr>
<tr>
<td>380V Pole</td>
<td>Pole</td>
<td>47</td>
<td>1000</td>
<td>4.70</td>
</tr>
<tr>
<td>380V Timber Pole</td>
<td>Pole</td>
<td>55</td>
<td>500</td>
<td>2.75</td>
</tr>
<tr>
<td>Transformer</td>
<td>Transformer</td>
<td>7</td>
<td>50000</td>
<td>35.00</td>
</tr>
<tr>
<td>Motor-pumped well</td>
<td>well</td>
<td>10</td>
<td>5000</td>
<td>5.00</td>
</tr>
<tr>
<td>Open Channel</td>
<td>M</td>
<td>500</td>
<td>90</td>
<td>4.50</td>
</tr>
<tr>
<td>Road</td>
<td>M^2</td>
<td>15000</td>
<td>180</td>
<td>270.00</td>
</tr>
<tr>
<td>Rubble Path</td>
<td>M^2</td>
<td>630</td>
<td>70</td>
<td>4.41</td>
</tr>
<tr>
<td>Cinder Path</td>
<td>M^2</td>
<td>630</td>
<td>55</td>
<td>3.74</td>
</tr>
<tr>
<td>Grave</td>
<td>Grave</td>
<td>42</td>
<td>180</td>
<td>0.76</td>
</tr>
<tr>
<td>Underground Structures</td>
<td>M</td>
<td>1350</td>
<td>68</td>
<td>9.18</td>
</tr>
<tr>
<td>Electric Cable</td>
<td>site</td>
<td>30</td>
<td>6000</td>
<td>18.00</td>
</tr>
<tr>
<td>Tree(shorter than 3cm)</td>
<td>tree</td>
<td>3800</td>
<td>2</td>
<td>0.76</td>
</tr>
<tr>
<td>Tree(3-15 cm)</td>
<td>Tree</td>
<td>2335</td>
<td>10</td>
<td>2.34</td>
</tr>
<tr>
<td>Tree(higher than 15 cm)</td>
<td>Tree</td>
<td>850</td>
<td>100</td>
<td>8.5</td>
</tr>
<tr>
<td>Fruit Tree</td>
<td>tree</td>
<td>660</td>
<td>800</td>
<td>52.80</td>
</tr>
<tr>
<td>False Indigo</td>
<td>Cluster</td>
<td>25000</td>
<td>10</td>
<td>25.00</td>
</tr>
<tr>
<td>Shrubbery</td>
<td>clump</td>
<td>7000</td>
<td>10</td>
<td>7.00</td>
</tr>
<tr>
<td>Total Basic Cost</td>
<td></td>
<td></td>
<td></td>
<td>2515.40</td>
</tr>
<tr>
<td>6. Management Fee</td>
<td>Basic Cost*3%</td>
<td></td>
<td></td>
<td>75.46</td>
</tr>
<tr>
<td>7. Cost of Survey and Design</td>
<td>Basic Cost*2%</td>
<td></td>
<td></td>
<td>50.31</td>
</tr>
<tr>
<td>8. Monitoring and Evaluation Costs</td>
<td>Basic Cost*1%</td>
<td></td>
<td></td>
<td>25.15</td>
</tr>
<tr>
<td>9. Contingencies</td>
<td>Basic Cost*10%</td>
<td></td>
<td></td>
<td>251.54</td>
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<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td>2917.86</td>
</tr>
</tbody>
</table>
5.8 Annual Investment Plan

Annual investment plan should be worked out according to the implementation progress of land acquisition, house demolition and PAP relocation of the project. See Table 5-3 for the annual investment plan for land acquisition, house demolition and PAP relocation of No.2 Wastewater Treatment Plant Project. See Table 5-4 for the annual investment plan for land acquisition, house demolition and PAP relocation of City Center Water Supply Project.

Table 5-3 Annual investment plan for land acquisition, house demolition and PAP relocation of No.2 Wastewater Treatment Plant Project. Unit: 10^4 yuan

<table>
<thead>
<tr>
<th>Year</th>
<th>2000</th>
<th>2001</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost</td>
<td>1721</td>
<td>428.91</td>
<td>2144.57</td>
</tr>
<tr>
<td>Percentage (%)</td>
<td>80</td>
<td>20</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 5-4 Annual investment plan for land acquisition, house demolition and PAP relocation of City Center Water Supply Project. Unit: 10^4 yuan

<table>
<thead>
<tr>
<th>Year</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost</td>
<td>2042.50</td>
<td>583.57</td>
<td>291.79</td>
<td>2917.86</td>
</tr>
<tr>
<td>Percentage (%)</td>
<td>70</td>
<td>20</td>
<td>10</td>
<td>100</td>
</tr>
</tbody>
</table>
6. Implementation Schedule of Resettlement Activities

6.1 Join of Resettlement Implementation and Project Construction

The subprojects involved in land acquisition, house demolition and PAP relocation of the project include:
- Xijiao No.2 Wastewater Treatment Plant
- Water Purification Plant of City Center Water Supply Project
- Water Delivery Pipeline of City Center Water Supply Project
- Water Distribution Pipeline of City Center Water Supply Project

According to the project schedule, Xijiao No.2 Wastewater Treatment Plant is to start in July 2000 and will be completed in June 2005, while City Center Water Supply Project begins in July 2000 and will be completed in September 2003. The schedule for land acquisition, house demolition and PAP relocation should be determined according to that for project construction in order to dovetail with it.

The basic principles of making the project construction dovetail the progress of land acquisition, house demolition and PAP relocation are as followings:
- To fix the schedule for land use of the project in accordance with the date of pipeline construction and of plant construction.
- When Land acquisition and house demolition will begins is determined on the basis of the work of land acquisition, house demolition and PAP relocation, while it should be completed one month before the start of the project.
- To reserve enough time for land acquisition, house demolition and PAP relocation before the start of project.

See Table 6-1 for joint schedule for the project construction and land acquisition.
and house demolition.

Table 6-1 Joint Schedule for the Project Construction and Land Acquisition and House Demolition

<table>
<thead>
<tr>
<th>Name of Project</th>
<th>Date of Construction</th>
<th>Date of Land Acquisition and House Demolition</th>
<th>Date Of PAP Relocation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Begin</td>
<td>Finish</td>
<td>Begin</td>
</tr>
</tbody>
</table>

- The scope of land acquisition and house demolition of the project should be determined according to the design drawing of each engineering item before the inventory survey made for the land acquisition and house demolition.
- Before the contracts for compensation and relocation are signed, the measurement and calculation of the tangible materials affected by land acquisition and house demolition should be carried out in accordance with the red line drawing of land acquisition and house demolition by both the owners of title and the organizations in charge of the implementation of the land acquisition and house demolition of the project.
- Before the contracts for compensation and relocation are signed, the organizations in charge of the implementation of the land acquisition and house demolition of the project should hold mobilization meetings to announce the policies and methods of land acquisition, house demolition, relocation and compensation and promulgate the formal announcement of land requisition and house demolition. Attendees at the meetings include: the PAP households and the unit affected.
- After the measurement and calculation of tangible materials affected by land
acquisition and house demolition and the promulgation of the formal announcement of land requisition and house demolition, the contracts for compensation and relocation will be signed by the unit or person whose land or house are affected and the unit or person who needs to requisition land and demolishing houses.

- Transition fee should be paid to the PAPs during the transition period, and it should be paid before the move begins.
- Infrastructure reconstruction should be carried out first, and it is necessary to build new infrastructure in advance and then demolish the old ones.
- To settle the accounts of compensation cost and deal out the compensation after the relevant contracts are signed and before the move begins.

6.2 Implementation Schedule of Resettlement

According to Table 6-1 and the principles mentioned above, the implementation schedules for the land acquisition, house demolition and resettlement of each engineering item are worked out and illustrated in Table 6-2, Table 6-3 and Table 6-4.
<table>
<thead>
<tr>
<th>Implementation Items of Resettlement</th>
<th>Xijiao No.2 Wastewater Treatment Plant Project</th>
<th>City Center Water Supply Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measurement and Verification of Tangible Materials Affected by Land Acquisition and House Demolition</td>
<td>2000.3</td>
<td>2000.3</td>
</tr>
<tr>
<td>Holding Mobilization Meetings and Announcing Relevant Policies</td>
<td>2000.3</td>
<td>2000.3</td>
</tr>
<tr>
<td>Promulgating Formal Announcement of Land Acquisition and House Demolition</td>
<td>2000.4</td>
<td>2000.4</td>
</tr>
<tr>
<td>Negotiation and Signature of the Contracts for Compensation and Relocation</td>
<td>2000.3-2000.4</td>
<td>2000.3-2002.9</td>
</tr>
<tr>
<td>Land Leveling for PAP Relocation</td>
<td>/</td>
<td>2000.4-2002.5</td>
</tr>
<tr>
<td>Reconstruction of PAP Residential Houses</td>
<td>/</td>
<td>2000.4-2002.9</td>
</tr>
<tr>
<td>Settling the Accounts and Dealing Out the Compensation</td>
<td>2000.4-2000.9</td>
<td>2000.4-2002.9</td>
</tr>
<tr>
<td>Infrastructure Reconstruction</td>
<td>/</td>
<td>2000.4-2002.9</td>
</tr>
<tr>
<td>PAP Moving Into the Resettlement Houses</td>
<td>/</td>
<td>2000.4-2002.9</td>
</tr>
<tr>
<td>Demolishing the Old Houses and Facilities</td>
<td>/</td>
<td>2000.8-2002.10</td>
</tr>
</tbody>
</table>
### Table 6-3 Implementation Progress of Land Acquisition, House Demolition and PAP Relocation of Xijiao No.2 Wastewater Treatment Plant Project

<table>
<thead>
<tr>
<th>Implementation Items</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>Determination of the Scope of Land Acquisition and House Demolition</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investigation and Verification of Tangible Materials Loss</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Holding Mobilization Meetings and Announcing Relevant Policies</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Promulgating Formal Announcement of Land Acquisition and House Demolition</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negotiation of Resettlement Policies and Plans</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negotiation and Signature of the Contracts for Compensation and Relocation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Settling the Accounts and Dealing Out the Compensation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infrastructure Reconstruction</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project Construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Independent Monitoring and Evaluation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Implementation Items</td>
<td>2000</td>
<td>2001</td>
<td>2002</td>
<td>2003</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------------------</td>
<td>------</td>
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<td>------</td>
</tr>
<tr>
<td>Determination of the Scope of Land Acquisition and House Demolition</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investigation and Verification of Tangible Materials Loss</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Holding Mobilization Meetings and Announcing Relevant Policies</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Promulgating Formal Announcement of Land Acquisition and House Demolition</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negotiation of Resettlement Policies and Plans</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negotiation and Signature of the Contracts for Compensation and Relocation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Land Leveling for PAP Relocation</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Reconstruction of PAP Residential Houses</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Settling the Accounts and Dealing Out the Compensation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paying Transition Fee to PAPs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infrastructure Reconstruction</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PAP Moving Into the Resettlement Houses</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demolishing the Old Houses and Facilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project Construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Independent Monitoring and Evaluation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
7. Organizations

7.1 Organizational Framework

During the implementation of the project, organizations responsible for resettlement planning, management, implementation and monitoring include:

- Urban Environment Project Office of Hebei Province (UEPOHP)
- Urban Environment Project Office of Tangshan City (UEPO)
- Tangshan Sewage Treatment Ltd. (STL)
- Tangshan Tap Water Company (TWC)
- Urban Planning Bureau of Tangshan City (UPB)
- Land Administration Bureau of Tangshan City (LAB)
- Land Administration Bureau of Kaiping District of Tangshan City
- Land Administration Bureau of Lubei District of Tangshan City
- Land Administration Bureau of Xin District of Tangshan City
- Land Administration Bureau of Fengrun County of Tangshan City
- Land Administration Bureau of Gaoxin District of Tangshan City
- House Demolition Office of Tangshan City (HDO)
- Shanghai Research Institute for Municipal Engineering Design (SRIMED)
- North China Research Institute for Municipal Engineering Design (NCRIMED)
- National Research Center of Resettlement (NRCR)
- Town and Township Government concerned (TTG)
- Village Administration Committee concerned (VAC)

The main responsibilities of these organizations are as followings:

- UEPO is responsible for the leading, organizing, coordinating, examining and supervising the land acquisition, house demolition and resettlement activities of the project.
• STL and TWC are responsible for working out and implementing the RAP.
• Land Administration Bureau of relevant county or district is in charge of acquiring collective land in rural area and the allocation of foundation area and location of new houses.
• Land Administration Bureau of Tangshan City is in charge of the supervision and arbitration of land acquisition.
• House Demolition Office of Tangshan City is responsible for house demolition.
• Shanghai Research Institute for Municipal Engineering Design and North China Research Institute for Municipal Engineering Design are responsible for the design work of the project.
• NRCR is responsible for the resettlement monitoring.
• Town and Township Government concerned and VAC concerned are responsible for the implementation of resettlement in their scope of control.

7.2 Responsibilities

7.2.1 Urban Environment Project Office of Tangshan City

The responsibilities of UEPO are:
• Work out and implement the relevant polices of the RAP;
• Organize and coordinate the compilation of RAP;
• Allocate project funds and supervise the utilization of fund;
• Direct, Coordinate and supervise the implementation of RAP;
• Supervise internal monitoring of the project, chose external independent monitoring organization and cooperate with and coordinate the external monitoring activities;
• Examine the monitoring report;
• Prepare the progress report and submit it to Urban Environment Project Office of Hebei Province;
• Coordinate and solve the conflicts and problems incurred during the implementation of RAP.

7.2.2 STL and TWC

The responsibilities of them are:

• Entrust design division with the task of define the scope of the area affected by the project;
• Arrange for and conduct socioeconomic survey;
• Apply to UPB and LAB for the planning permission and construction permission for land use;
• Manage the demolition of urban infrastructure;
• Ensure and coordinate the implementation of RAP in accordance with the schedule of project construction;
• Allocate resettlement funds in accordance with the relevant agreements and contracts;
• Organize and implement the internal monitoring.

7.2.3 Land Administration Bureau of Tangshan City (Organization for Management and Supervision)

The responsibility of LAB are:

• Execute and implement the relevant state policies, laws and regulations regarding the management of land used for project construction;
• Participate in the examination and investigation of the compensation standard and the resettlement plan for land acquisition of the project;
• Go through formalities for examination and approval of land acquisition of the project;
• Participate in the socioeconomic survey;
• Participate in the compilation and examination of RAP;
• Grant the construction license for land use;
• Direct, coordinate and supervise the implementation of RAP;
• Coordinate and solve the conflicts and problems incurred during the land acquisition and allocation of the project.

7.2.4 Land Administration Bureau of Relevant Counties and Districts (LABRCD, Implementation Organization)

The responsibilities of them are:
• Register and announce the tangible material indices of land acquisition;
• Organize public participation;
• Negotiate with the villages whose land are to be requisitioned about the RAP and compiled the RAP with them, announce the RAP after it is fixed;
• Implement RAP;
• Go through formalities for land acquisition.

7.2.5 House Demolition Office of Tangshan City (Implementation Organization)

The responsibilities of it are:
• Examine, verify, approve and announce the plan for the demolition, resettlement and compensation of the unit (person) who needs to demolish houses;
• Grant the house demolition license and promulgate the demolition announcement;
• Organize, coordinate and supervise the house demolition activities;
• Establish and manage the files of house demolition;
• Information management of land acquisition, demolition and resettlement activities;
• Staff training;
• Report the state of land acquisition and resettlement to UEPO;
• Coordinate and solve the conflicts and problems incurred during the implementation of RAP;
• Mediate and arbitrate disputes incurred in the house demolition.

7.2.6 Urban Planning Bureau of Tangshan City (Organization for Management and Supervision)

The responsibilities of UPB are:
• Examine and approve the red line for land acquisition and land holding;
• Grant the planning license for land use.

7.2.7 Town and Township Government

The responsibilities of them are:
• Participate in socioeconomic survey;
• Participate in working out and compiling RAP and resettlement scheme;
• Investigate and supervise the resettlement and rehabilitation of VAC and PAPs;
• Report the suggestions and opinions to higher authorities.

7.2.8 Village Administration Committee (VAC)

The responsibilities of VAC are:
• Participate in conducting socioeconomic survey and working out resettlement scheme;
• Participate in working out and compiling RAP;
• Organize public consultation and propagate the policies of land acquisition and demolition;
• Adjust and allocate the land left in the village after land acquisition;
• Arrange for PAPs to carry out production development and income restoration activities after land acquisition;
• Transfer opinions and suggestions of PAPs to the higher authorities concerned;
• Provide vulnerable group for restoration with special assistance.

7.2.9 Shanghai Research Institute for Municipal Engineering Design, North China Research Institute for Municipal Engineering Design (Design Organization)

The responsibilities of them are:
• Minimize the adverse impacts of the project through optimum design;
• Define the scope of the area affected by land acquisition and house demolition;
• Assist to compile RAP;
• Provide UEPO with technology consultation on data investigation and processing.

7.2.10 National Research Center of Resettlement (Organization for Independent Monitoring and Evaluation)

As an organization for independent monitoring and evaluation, NRCR is responsible for observe and monitor the RAP and its implementation and submit reports on independent monitoring and evaluation of resettlement to the World Bank. Its responsibilities will be explained in detail in Chapter 10.
7.3 Staffing

The staffing of each major resettlement institution involved in the project is shown in Table 7-1. The resettlement organizations involved in the project are well-staffed, and the average number of working staff is 73 and the total number of staff is 124. Most of the staff have an above average education degree and well trained in their specialties. The information path among the organizations is unimpeded. Thus can ensure a good performance in the implementation of RAP.
### Table 7-1 Staffing of the Resettlement Organizations involved in the Project

<table>
<thead>
<tr>
<th>Resettlement Institutions</th>
<th>Average Number of Staff</th>
<th>Total Number of Staff</th>
<th>Education &amp; Qualification of Staff</th>
<th>Date of Start of Operation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>B:C:</td>
<td>D</td>
<td>E</td>
<td>F</td>
<td></td>
</tr>
<tr>
<td>UEPO</td>
<td>6:13</td>
<td>government officers, college degree×11</td>
<td>From 96.12</td>
<td>The organizations in charge of management and implementation of land acquisition, house demolition and resettlement of the project are well-equipped with transportation and communication system; The organizations in charge of survey and design and monitoring and evaluation of the project have high technical level and efficient computers; The organizations in charge of implementing and monitoring of RAP of the project have rich experience in their own fields.</td>
<td></td>
</tr>
<tr>
<td>STL</td>
<td>2:3</td>
<td>Engineers, technician, economic management personnel; college degree×3</td>
<td>From 96.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TWC</td>
<td>4:4</td>
<td>Engineers, technician; college degree×4</td>
<td>From 96.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LAB</td>
<td>3:3</td>
<td>Civil servants; economic management personnel; college degree×3</td>
<td>From 97.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LAB</td>
<td>3:3</td>
<td>Civil servants; college degree×3</td>
<td>From 96.12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Land Administration Bureau Of Relevant County and District</td>
<td>8:8</td>
<td>Civil servants; college degree×6</td>
<td>From 97.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>House Demolition Office of Tangshan City</td>
<td>3:5</td>
<td>Engineers, technician, management personnel; college degree×1</td>
<td>From 99.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Town and Township Government</td>
<td>7:14</td>
<td>Civil servants; economic management personnel; college degree×8</td>
<td>From 97.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VAC</td>
<td>30:60</td>
<td>Cadres of villages</td>
<td>From 97.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shanghai Research Institute for Municipal Engineering Design and North China Research Institute for Municipal Engineering Design</td>
<td>4:4</td>
<td>Engineers; technicians; college degree×4</td>
<td>From 96.11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NRCR</td>
<td>6:12</td>
<td>College professor×4; Ph.D.degree×4; Ms degree×8</td>
<td>From 99.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>73:124</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
7.4 Organization Chart

See Figure 7-1 for organization chart.

Figure 7-1 Organization Chart
7.5 Measures to Strengthen Organizational Capacity

- UEPO, STL and TWC have prepared to arrange for regular working staff to attend Resettlement and Rehabilitation Workshop for Projects Funded by the World Bank held by EDI and NRCR in October 1998 and been familiar with the resettlement policies of the World Bank.

- Funds and equipment are fully guaranteed. UEPO has prepared to buy 2 computers.

- To set up ARMS, carry out data management of land acquisition, house demolition and PAP relocation using computers, and ensure a unimpeded information delivery system.

- Strengthen the reporting system and internal monitoring and solve the problems incurred without delay.

- Independent monitoring and evaluation should be reinforced. The Organization in charge of Independent monitoring and evaluation should report the existing problems to the department concerned without delay and suggest solutions.

7.6 Working Routine of Land Acquisition, House Demolition and Resettlement Implementation

(1) Define the Scope of Land Acquisition and House Demolition

According to the red line drawing and the plain design drawing, implementation organizations arrange for working staffs to investigate and register the number of households, the total population and the state of house property within the red line scope.

(2) Survey of Tangible Material Indices of Land Acquisition and House
Demolition

HDO and LABRCD arrange for working staffs to make a on-the-spot survey of the land, house and attached buildings, facilities and equipment of the villages whose land are to be requisitioned and the PAP household whose houses are to be demolished and register them in detail. As for the survey of infrastructure on and under the ground, HDO and LABRCD first confirm the nature and the ownership of the infrastructure within red line scope, then explain the condition of land acquisition and house demolition of the project to the each infrastructure owner and management unit, and submit the plain design drawing to the units concerned. Moreover, the unit concerned should report the relevant materials of infrastructure to STL and TWC within 18 days after receiving the plain design drawing.

(3) To work out the plan for land acquisition, house demolition and PAP resettlement and make a budget estimate for it

According to the survey of land acquisition and house demolition, HDO and LABRCD organize the compilation of RAP and budget making in accordance with the relevant policies and regulations regarding land acquisition and house demolition and submit the RAP and the budget estimate for examination and approval.

(4) Examination and Approval of the RAP

(5) HDO and LABRCD deliver the advice notice of land acquisition to the unit whose land will be requisitioned and promulgate the announcement of land acquisition and house demolition.
(6) Applying for Felling Trees

STL or TWC investigate and calculate the number of the trees that need to be felled and apply to Forestry Bureau of Tangshan City, Garden Bureau and Afforestation Office for approval of felling trees. After the application is approved, afforestation Office is in charge of organizing felling trees and paying compensation in accordance with the number of felled trees.

(7) Signing the contracts for land acquisition, house demolition and PAP relocation

According to the RAP and the resettlement policies and regulations, HDO and LABRCD negotiate with the villages whose land will be requisitioned and persons whose houses will be demolished about the land acquisition, house demolition, PAP resettlement and compensation standards, separately. The contracts for land acquisition, house demolition and PAP relocation are signed immediately when the agreement is reached. The contracts are signed by the signed and sealed by the house-demolished people, HDO and LABRCD.

(8) The specific procedure of house demolition and rehabilitation

- To carry out survey and registration of house and attached facilities in the demolition area and sign the contracts for land acquisition, house demolition and PAP relocation.
- VAC negotiate with the house-demolished villagers who prefer to demolish and rebuild house by themselves and allocate the foundation area and the location of new houses in the appointed area with integrated planning.
• HDO pay the demolition compensation and relocation allowance to the house-demolished people.

(9) Demolition, reconstruction and restoration of infrastructure

Under the supervision of UEPO, STL and TWC pay the compensation for the infrastructure to be demolished within red line scope to the owner, and the owners of the infrastructure arrange for construction teams to carry out the demolition, reconstruction and restoration.

(10) The specific procedure of land acquisition and PAP resettlement

• Under the supervision and coordination of UEPO, STL and TWC contract land acquisition to LABRCD, sign the relevant agreements with them and paid them the general cost of land acquisition, separately.

• LABRCD survey and register the land, house and attached facilities in red line scope of land acquisition.

• The contracts for land acquisition, house demolition and PAP relocation are signed by LABRCD and the villages affected under the supervision and notarization of LAB.

• LABRCD pay the land compensation to the villages affected in accordance with the contracts.

• VAC adjusts and allocates the land left after land acquisition.

• VAC allocates land compensation and relocation allowance to the adjustment of industrial structure to increase PAP income with the permission of two-thirds of the villagers.

• To calculate the investment profit of land compensation and relocation allowance.
(11) Granting the land use permission

When the relevant materials are all ready, LAB issues the instrument of ratification for land use and LABRCD grants the land use permission or temporary land use permission.

(12) Write working summary and keeping it in the archives

When the work of land acquisition and house demolition is completed, accounts are settled. The sponsor institute writes working summary and keeps it in the archives after examination and approval.
8. Participation and Consultation

In order to formulate relevant policies, work out and compile the RAP, carry out the RAP efficiently, guarantee the legal advantage of PAPs, alleviate the grievances and conflicts and resettle the PAPs properly, special attention will be paid to participation and consultation of the PAPs in the project. During the formulation of resettlement policies, compilation and implementation of the RAP, the opinions of PAPs are heard widely.

When feasibility study is carried out during the project preparing phase, UEPO has solicit opinions of Tangshan City Government, Government of relevant districts, the People's Congress of Tangshan City, the Political Consultative Conference, mass organizations, and the villages affected on pipeline laying sites, locations of wastewater treatment plant and water purification plant, land acquisition, house demolition and resettlement for many times.

In November 1996, UEPO arranged for the units concerned such as STL and TWC to make a tentative survey of land use condition and socioeconomic condition in the land acquisition and demolition area of the project, and suggestion about project scheme, land acquisition, house demolition and PAP relocation were raised. All the opinions and suggestions have been considered in the project design and compilation of the RAP.

On January 29, 1997, UEPO sponsored a meeting in Tangshan Urban Construction Bureau and discussed with the infrastructure owners the project affected. Attendats at the meeting include infrastructure owners such as:

- Municipal Facilities Management Section;
- Afforestation Office;
- Electricity Supply Bureau;
- Agriculture Bureau;
- STL;
- TWC;
Post and Telecommunications Office.

UEPO introduced the project condition and the scope involved, solicited opinions of house-demolished units on pipeline laying, infrastructure demolition and compensation. After the meeting, infrastructure owners arranged for personnel to look up archives and material concerned or to make on-the-spot survey, and provided their infrastructure sorts and quantity within the demolition scope and worked out the scheme of restoration and reconstruction. All suggestions have been adopted in the RAP.

In January 1997, detailed survey of socioeconomic condition and tangible materials affected by land acquisition, house demolition of the project was made during the pre-feasibility research.

From September 20 to September 29 in 1998, UEPO, STL and TWC carried out a survey of socioeconomic condition, public opinions and psychology and solicited the opinions from 20 households affected by or benefit from the project (HABP). The result of psychological questionnaires showed:

- 85% of the sampling households think that the urban wastewater or water deficiency has serious or very serious effect on their work and lives;
- 80% of the sampling households were aware of the project;
- 85% of the sampling households agreed with the project;
- 50% of the sampling households were aware of or partially understood the policies on land acquisition, house demolition, resettlement and compensation;
- 85% of the sampling households believe that the project is beneficial to the state;
- 65% of the sampling households believe that the project is beneficial to the collective;
- 75% of the sampling households believe that the project is beneficial to the individual;
- 90% of the sampling households knew that they could appeal to the department concerned if their rights were encroached upon. From
September 11 to September 15 in 1999, UEPO, STL, TWC, Land Acquisition Administration section of Tangshan City, and Land Administration Bureau of Lubei District of Tangshan City went to the villages affected by the requisition, and asked for their opinions and initially negotiated with the Village Administration Committees about the land acquisition and replacement of labor. Table 8.1 shows the details of the survey.

Table 8.1 Psychology Questionnaire

<table>
<thead>
<tr>
<th>No.</th>
<th>Questions</th>
<th>Answers</th>
<th>Sampling Households</th>
<th>Results(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>(1)</td>
<td>(2)</td>
</tr>
<tr>
<td>D1</td>
<td>Do you know that the project construction will begin?</td>
<td>(1) Yes (2) No</td>
<td>20</td>
<td>80</td>
</tr>
<tr>
<td>D2</td>
<td>Do you agree with the project?</td>
<td>(1) Yes (2) No (3) Indifference</td>
<td>20</td>
<td>85</td>
</tr>
<tr>
<td>D3</td>
<td>Who will benefit from the project? (Multiple Choices)</td>
<td>a) The state (1) Yes (2) No</td>
<td>20</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) The collective (1) Yes (2) No</td>
<td>20</td>
<td>85</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c) Individuals (1) Yes (2) No</td>
<td>20</td>
<td>65</td>
</tr>
<tr>
<td>D4</td>
<td>Which of the potential hazards of urban wastewater do you know?</td>
<td>(1) Economic loss</td>
<td>20</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(2) Deterioration of residential environment</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(3) Do harm to resident health</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(4) Affect investment environment</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(5) Smear the images of Tangshan City</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D5</td>
<td>To what degree does the urban wastewater affect your work and life?</td>
<td>(1) Have no impact</td>
<td>20</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(2) Not seriously</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(3) Rather seriously</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(4) Seriously</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D6</td>
<td>Which of the benefit do you think you can get from the project?</td>
<td>(1) Improvement of living environment</td>
<td>20</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(2) Improvement of working environment</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(3) Provide employment opportunity</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(4) Benefit health of body and mind</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D7</td>
<td>Which of the adverse impact do you think the project will have on you?</td>
<td>(1) Have no adverse impact</td>
<td>20</td>
<td>75</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(2) The project construction may affect traffic condition</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(3) Economic loss cause by house demolition</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(4) Decrease of income caused by land acquisition</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(5) Other adverse impacts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D8</td>
<td>Do you know the policies on urban land acquisition, house demolition, resettlement and compensation?</td>
<td>(1) Yes (2) Know a little about (3) No</td>
<td>20</td>
<td>25</td>
</tr>
<tr>
<td>D9</td>
<td>Do you know that you can appeal to the department concerned when your rights are encroached upon?</td>
<td>(1) Yes (2) No</td>
<td>20</td>
<td>90</td>
</tr>
</tbody>
</table>
All the results of the survey mentioned above have been adopted in the RAP after arrangement and analysis.

In the future, the following measures will be taken to encourage public participation and consultation.

- PAPs and the villages affected participate in the house demolition and relocation.
  VAC and representatives of PAPs take part in the implementation of detailed survey on house and attached facilities to be demolished, fixing the compensation standards, allocation of the location and foundation area for new house and negotiations of contracts for demolition, compensation and resettlement. Thus, the PAPs interests and opinions are well reflected, and justice, rationality and transparency of the resettlement are ensured.

- The PAPs themselves select the form of house building during the implementation of RAP.
  Assisted by HDO, LABRCD and VAC, the PAPs themselves select their form of house construction. The resettled households themselves select the location of new houses in the area with integrated planning, determine the house structure and overall arrangement and organize the activities of resettlement, reconstruction and demolition.

- Holding the negotiation meetings(6 months before land acquisition and demolition)
  To organize representatives of PAPs, village cadres and woman representatives (Female representatives should comprise at least 30% of all attendants to protect the interests of the vulnerable groups) to participate in discussion meetings, introduce the resettlement condition to the attendants and further hear their opinions and suggestions.

- Holding mass meetings(3 months before land acquisition)
The mass meetings are held before the implementation of RAP in order to explain the relevant policies, regulations, compensation standards, the resettlement scheme and so on in detail. Thus, the PAPs can make early preparations for the resettlement.

- To propagate the policies on land acquisition and house demolition of the project via mass media.
- Promulgation of land acquisition announcement

The contents are:
1) brief introduction of the project
2) the scope of land acquisition and demolition
3) the resettlement policies (including compensation standards)
4) organization which is responsible for the resettlement
5) schedule of resettlement and relocation
6) rights and obligations of PAPs
7) grievances and appeals
8) monitoring and evaluation

- Village cadres and representatives of PAPs participate in the work of land acquisition and resettlement.

Village cadres and representatives of PAPs should make on-the-spot survey with the Working staffs of HDO and LABRCRD to determine the final quantity of land acquisition and house demolition and negotiate about the plan for compensation standards and resettlement. Directed by HDO, LABRCRD and TTG, the villages affected determine the resettlement plan for the total population affected and decide how to allocate the land left after land acquisition on the basis of democratic consultation.

- RAP will be placed at UEPO of Tangshan to be looked up by people concerned.
9. Grievances and Appeals

Special attention will be paid to the PAPs and the house-demolished units (HDU) participation throughout the process of compilation and implementation of RAP. To ensure that the PAPs and the PAUs have channels for redressing their grievances, transparent and efficient grievance redress procedures have been established for the project to avoid serious grievance problems.

The grievance redress procedures include the following four stages:

- **Stage I**
  
  If PAPs or HDUs are not satisfied with the RAP or implementation of RAP, they can appeal to HDO and LABRCD (Implementation organizations) orally or in writing. In case of an oral compliant, the two institutions are required to document the specific grievance on paper, keep it in the archives and settle the grievance within two weeks.

- **Stage II**
  
  If the PAPs and HDUs are not satisfied with the solution of Stage I, they can then appeal to UEPO after receiving the judgement notice of Stage I. UEPO shall make a decision on the complaint within two weeks.

- **Stage III**
  
  If the PAPs and HBUs are still dissatisfied with the settlement, they can appeal to LAB (The institution in charge of supervision and arbitration of land acquisition and house demolition) after receiving the decision made by UEPO and submit the dispute for arbitration. LAB, the arbitration organization, will make arbitration on the complaint within 3 weeks.
Stage IV

If the PAPs or HDUs are still dissatisfied with the arbitration, they can appeal to the Peoples Court in accordance with the Administration Procedure Law of PRC after receiving the decision of the arbitration organization. PAPs or HDUs can make an appeal on any issue of the resettlement plan, including compensation criteria.

The PAPs will be informed of the grievance redress procedures mentioned above through meetings and other ways to ensure that they are clear about their rights of grievance and appeals and can protect their own rights.
10. Monitoring

According to Operational Directive 4.30 of the world Bank, implementation of land acquisition, house demolition and resettlement activities should be monitored regularly to ensure those actions have proceeded in accordance with the provisions of the RAP. There are two kinds of monitoring mechanisms in this RAP, the internal monitoring and the independent monitoring that is carried out by an external institution.

Internal Monitoring is carried out by UEPOHP, UEPO, STL, TWC, HDO and LAB to ensure that all the units follow the schedule and comply with the principles of the RAP. The purpose of the internal monitoring is to make the resettlement organizations fulfil their duties efficiently during the implementation of the RAP.

Independent Monitoring Organization is responsible for making independent monitoring and evaluation on the activities of land acquisition, house demolition and resettlement regularly. NRCR, as the independent monitoring organization (IMO), undertakes the independent monitoring of the project. The independent monitoring covers the issues following:

- Operation efficiency of the resettlement network;
- Compensation and implementation process of land acquisition, house demolition, rehabilitation;
- Relocation and production and business reestablishment of the PAPs and the units affected by the project (PAUs);
- Investigation and analysis of the living standards of PAPs.

The independent monitoring is to entrust an organization independent of UEPO with the monitoring and evaluation on the implementation of resettlement and economic rehabilitation from a overall and long-term point of view. IMO follows
the resettlement activities of the project closely to evaluate whether the goals of resettlement are achieved. The evaluation criteria include:

- To follow national laws and regulations relevant to land acquisition, house demolition and PAP resettlement;
- To comply with the principles of Operational Directive 4.30 (OD4.30) on Involuntary Resettlement of the World Bank;
- To help the PAPs to improve their living standards or at least to restore former one.

The IMO should provide UEPO suggestions about the implementation of RAP so as the problems incurred during the implementation of RAP can be resolved without delay.

10.1 Internal Monitoring and Supervision

HDO and LABRCD have developed an internal monitoring system to supervise the resettlement activities. They establish relevant database on land acquisition, house demolition and resettlement and use it to compile the RAP, monitor the PAPs and PAUs and carry out the internal investigation and supervision of the whole course of resettlement preparation and implementation.

10.1.1 Implementation Procedure

During the implementation of RAP, HDO and LABRCD collect and file information on PAPs and PAUs according to the samples provided by monitoring organizations. At the same time, they should report the record of the current activities timely to UEPO and UEPOHP so as to ensure a continuous monitoring on implementation. UEPO should conduct regular inspection on the implementation of RAP and report it to higher authorities concerned.
In the internal monitoring system mentioned above, the information table with unified form should be fixed in order to realize the continuous information flow from LABRCD and HDO to UEPOHP. UEPOHP, UEPO, STL, TWC, HDO and LABRCD, the important members of internal monitoring system, should carry out regular inspection and verification.

10.1.2 The Tasks of Monitoring

(1) Payment of compensation to PAPs and PAUs
(2) House reconstruction and relocation
(3) Rehabilitation of the vulnerable groups
(4) Rehabilitation and business recovery of shops
(5) Rehabilitation and production recovery of PAUs
(6) Reconstruction and production recovery of infrastructure
(7) The schedule of the activities mentioned above
(8) Conformity with the policy and regulation of RAP
(9) Community Participation and consultation during the implementation of RAP
(10) Staffing, training, working schedule and operation effectiveness of the resettlement institutions

10.1.3 Personnel

The staffing of resettlement organizations is presented in Chapter 7. Staff of the organizations responsible for monitoring and data processing are as follows:
Table 10.1 Personnel of Resettlement Organizations Involved in Monitoring

<table>
<thead>
<tr>
<th>No</th>
<th>Resettlement Organizations</th>
<th>Regular Staff</th>
<th>Total Staff in Peak Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>UEPO</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>HDO</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>LABRCD</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>4</td>
<td>IMO</td>
<td>6</td>
<td>12</td>
</tr>
</tbody>
</table>

10.1.4 Objectives and Responsibilities

Responsibilities of the resettlement organizations were listed in Chapter 7. Monitoring responsibilities of UEPO are listed as following.

- Setting up the house demolition department, and training staff to investigate the project affected area.
- Organizing socioeconomic survey and provide survey and design institution with technical assistance.
- Preparing RAP.
- Being in charge of the implementation of land acquisition and resettlement.
- Implementation of community participation, collecting the information on PAPs and compiling the booklet of PAP information
- Hearing grievances and appeals of PAPs and PAUs and solving the problems incurred.

10.2 Independent Monitoring

The IMO carries out its monitoring work on the basis of the census data compiled by the survey and design institute and materials utilized by the
resettlement organizations.

10.2.1 The Independent Monitoring Organization (IMO)

UEPO invited NRCR as the IMO of the project. The contract is to be signed in April 1999. NRCR is the first national research institution of project resettlement in China, and it is also the only one in cooperation with EDI in training of resettlement personnel in China. It has rich experience in resettlement policies, planning, design, implementation, monitoring, evaluation, management, etc. Moreover, NRCR has undertaken independence monitoring and evaluation of projects funded by the World Bank more than 10 times. The monitoring and evaluation (M&E) group of NRCR consists of 12 members experienced in sociology and engineering resettlement including professors, lecturers, Ph. Ds and masters. See Annex 1 for the outline of independent monitoring and evaluation. See Annex 2 for the detailed information of NRCR and its staff.

10.2.2 Responsibilities

NRCR should traces, monitors and evaluates the implementation of RAP. In addition, as an independent consultant, it should provide advice and suggestions.

NRCR will make a on-the-spot survey of the sites where the land will be requisitioned or the houses will be demolished for the project in May 1999 and provide technical consultation and guidance for supplementary socioeconomic survey and RAP compilation. Besides, it should carry out following activities.
A. Baseline Survey

NRCR should carry out baseline survey of the PAPs and PAUs and collect basic materials of living standards of PAP households and production level of PAUs. Survey on production and living standards will be made annually thereafter to measure the changes in the living standards of PAPs. Various methods such as sampling survey, tracking typical sampling households (sampling households are determined using random sampling method), random visit and in-site observation are used to collect necessary materials. Finally, NRCR analyzes those collected materials and gives an evaluation.

Sampling sizes of different groups of PAPs are 50% of PAP households for house demolition, 10% of PAP households for land acquisition and resettlement, 15% of PAP households for temporary land use (The monitoring of this section focuses on the land recovery and income level recovery).

B. Regular Monitoring and Evaluation

During the implementation of RAP, IMO will conduct regular monitoring on project resettlement once a year. By in-situ observation, tracking typical sampling households and random visit to PAP households, IMO will monitor the following activities.

- Payment of Compensation and the sum of compensation
- Construction and allocation of the resettlement houses
- Rehabilitation and production recovery of PAPs and PAUs
- Reconstruction and restoration of infrastructure
- PAPs' moving
- Training
• Rehabilitation of vulnerable group
• Demolition of Original house
• Cultivation of land used temporarily by the project
• Production and living standards of PAPs
• The schedule of the activities mentioned above
• Social psychology of PAPs
• Organizations of resettlement and rehabilitation system

C. Public Consultation

IMO will attend the public hearing and consultation meetings during the compilation and implementation of RAP. Through participation in these meetings IMO evaluates the effectiveness of the community participation.

D. Grievance Redress

In order to evaluate the grievance redress system of the implementation organizations, IMO will monitor the PAPs' grievance and complaints by visiting the PAPs regularly, checking the grievance files kept by the HDO and other implementation organizations responsible for receiving the complaints and interviewing the PAPs who raised the complaint. As for these grievance issues, IMO should make suggestions about improving the grievance redress system to make it more effective.

10.2.3 Monitoring and Evaluation Procedure

(2) To compile the outline of independent monitoring and evaluation
(2) To develop information system of resettlement monitoring and evaluation

(3) To prepare and compile survey outline, questionnaire and record card of sampling PAP households

(4) To work out plan for sampling survey

(5) To carry out baseline survey

(6) To establish monitoring and evaluation information system

(7) To conduct monitoring and survey
   - To conduct local socioeconomic survey
   - To monitor resettlement implementation organizations
   - To monitor sampling PAP households
   - To survey the cultivation of land used temporarily by the project

(8) To arrange monitoring data and establish the relevant database

(9) To conduct comparative analysis

(10) To produce a monitoring and evaluation report annually
11. Report

11.1 Internal Report

11.1.1 Responsibilities and Frequency of Report

From the beginning of the implementation of the RAP, HDO and LABRCD should submit progress report to UEPO after the completion of land acquisition and house demolition of each stage, while UEPO should submit progress report to UEPOHP. Summary reports should be produced after the completion of land acquisition and house demolition.

11.1.2 Format

The statistic reports of resettlement progress should be compiled in accordance with the requirements of the World Bank and be submitted by LABRCD and HDO regularly. In accordance with the requirement of the World Bank, the report should contain two parts. The first half is the literal part which focus on the progress of land acquisition, house demolition, resettlement, compensation fund availability, and so on. The problems and difficulties encountered during the implementation of RAP and the solution to them are also included in it. The second half contains the forms which summarize the statistical data of earlier stage and show the results of comparative analysis for the planning quantity and the actual quantity of land acquisition, house demotion, compensation fund availability, etc.

11.2 Report Responsibilities of Project Offices
11.2.1 Report Frequency

HDO and LABRCD will submit the internal monitoring report on land acquisition and resettlement progress to UEPO twice a year. UEPO will then summarize the monitoring report and submit the resettlement progress and monitoring results to UEPOHP in an environmental report. UEPOHP will submit the progress report of the first half of the year to the World Bank at the end of July every year, and it will submit the annual progress report of the land acquisition, house demolition and relocation of the last year to the World Bank at the end of January every year.

11.2.2 Report Contents

- Progress of land acquisition, house demolition and resettlement
- Compensation rates, and payment of compensations
- House reconstruction
- Resettlement and production recovery of PAPs and PAUs and infrastructure reconstruction and restoration
- staff training

11.2.3 Report Format

In accordance with the requirement of the World Bank, the report should contain two parts. The first half is the literal illustration which focus on the progress of land acquisition, house demolition, resettlement, compensation fund availability, and so on. The problems and difficulties encountered during the implementation of RAP and the solution to them are also included in it. The second half contains the forms which
summarize the statistical data of earlier stage and show the results of comparative analysis for the planning quantity and the actual quantity of land acquisition, house demotion, compensation fund availability, etc.

11.3 Report Responsibilities of Independent Monitoring Organization

11.3.1 Report Frequency

According to the World Bank's guidelines, the IMO should carry out independent monitoring and evaluation on the resettlement once a year and submit the monitoring and evaluation report to the World Bank through UEPO.

From the beginning of resettlement implementation, monitoring and evaluation survey will be carried out in every November, and corresponding reports should be submitted on January 31 of the next year. The work of land acquisition, house demolition and resettlement of the project will be completed in May 2000, so the independent monitoring and evaluation on resettlement of the project will be conducted 4 times. They are:

- Baseline survey in July 2000
- Monitoring and evaluation in November 2000
- Monitoring and evaluation in December 2001
- Monitoring and evaluation in December 2002
- Monitoring and evaluation in December 2003

11.3.2 Report Contents
• Resettlement base-line survey
• Implementation progress of land acquisition, house demolition and resettlement
• Fund availability and utilization
• House demolition, relocation and production recovery of PAPs
• Infrastructures demolition, reconstruction and restoration
• Living and production standards of PAPs
• Evaluation on the operation and efficiency of resettlement agencies
• PAP Psychology survey
• Existing problems and suggestions

11.3.3 Report Format

The independent monitoring report adopts 3 formats: literal illustration, forms, and pictures.
### 12. Entitlement Matrix

<table>
<thead>
<tr>
<th>Impact Type</th>
<th>PAP or PAU</th>
<th>Compensation Policies</th>
<th>Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Collective Land Acquisition</strong></td>
<td>Village</td>
<td>- PAUs get land compensation and relocation allowance</td>
<td>57100yuan/mu</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- The land compensation and relocation allowance are used to help the PAPs restore their income level</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- VAC allocates land compensation and relocation allowance to the economic development of village collective with the permission of two-thirds of the villagers</td>
<td></td>
</tr>
<tr>
<td><strong>Labor</strong></td>
<td></td>
<td>- Measures such as providing PAPs with jobs or technical training courses will be taken to avoid income decrease of PAPs</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- The remaining land will be adjusted and allocated to the PAPs directly affected by the project so that they can have cultivated land similar to that of other peasants.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- PAPs get investment profit of the land compensation and relocation allowance.</td>
<td></td>
</tr>
<tr>
<td><strong>Contract Household</strong></td>
<td>PAPs get young crop compensation</td>
<td>951yuan/mu</td>
<td></td>
</tr>
<tr>
<td><strong>Collective Land for Temporary Use</strong></td>
<td>Collective, Group, Village</td>
<td>- PAPs get land compensation (Land holding fee, land leveling fee and land restoration fee)</td>
<td>3233yuan/mu</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Cultivation of the land using land compensation</td>
<td></td>
</tr>
<tr>
<td><strong>Contract Household</strong></td>
<td>PAPs get young crop compensation</td>
<td>951yuan/mu</td>
<td></td>
</tr>
<tr>
<td><strong>Private Houses in Rural Area</strong></td>
<td>Owner</td>
<td>- The land for reconstruction of new households will be provided in the village. PAPs will build houses by themselves after getting house compensation in accordance with replacement price. The project unit will provide assistance for help vulnerable group in house reconstruction</td>
<td>Replacement Price for Brick-Concrete Houses: 200-300yuan/M²</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- PAPs get transition fee in transition period</td>
<td>24yuan/M²</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- PAPs get move fee</td>
<td>10yuan/M²</td>
</tr>
<tr>
<td><strong>Shops in Rural Area</strong></td>
<td>Owner</td>
<td>- PAPs get house compensation in accordance with replacement price and build the shop in back of the original site (the operating environment will not change)</td>
<td>Replacement Price for Brick-Concrete Houses: 200-300yuan/M²</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- The income level of shop owner will nor decrease after the shop reconstruction and business reestablishment</td>
<td>24yuan/M²</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- PAPs get transition fee in transition period</td>
<td>10yuan/M²</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- PAPs get move fee</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- PAPs get compensation for Loss of closure on the basis of actual duration of closure</td>
<td>Actual loss of each shops</td>
</tr>
<tr>
<td><strong>Attached Facilities</strong></td>
<td>Owner</td>
<td>- PAPs get full compensation based on market price</td>
<td>See Chapter 3 for detail</td>
</tr>
<tr>
<td><strong>Infrastructure</strong></td>
<td>Owner</td>
<td>- PAUs get full compensation based on market price</td>
<td>See chapter 3 for detail</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- PAUs negotiate with the unit who needs to demolish infrastructures about the solution (relocation or protection)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Function recovery of infrastructure</td>
<td></td>
</tr>
</tbody>
</table>
ANNEX

Annex A  The General Outline of the Independent Monitoring and Evaluation on Urban Environment Project of Tangshan City

1. Introduction to the Project

Land acquisition and house demolition of this project involves 3 districts, 1 county and relevant infrastructure units.

RAP of this project is compiled by UEPO, STL and TWC and implemented by LAB and LABRCD. NRCR is in charge of independent monitoring and evaluation of the project.

2. Objectives of Independent Monitoring and Evaluation on Resettlement

According to the requirement of OD4.30 *Involuntary Resettlement* and annex 3 in the technical document No.80 of the World Bank *Involuntary Resettlement and Rehabilitation in Development Projects—Guidelines of Policy for the World Bank Loan Projects*, NRCR undertakes the independent monitoring and evaluation on the resettlement of Urban Environment Project of Tangshan City. NRCR will survey the fund availability and utilization, project management and progress of land acquisition, house demolition and resettlement, conduct comparative analysis and evaluation on changes in production, business and living condition of PAUs and PAPs before and after relocation and then make an evaluation for the progress of land acquisition, house demolition, relocation and rehabilitation. It will submit regular monitoring and evaluation report (once a year) to the World Bank, UEPO and the relevant departments in charge of the project. At the same time, it will also provide information and suggestions for the departments.
concerned making decision. From these reports, the World Bank and the
departments in charge of the project can get full understanding of whether the
work of land acquisition, house demolition and resettlement achieve the desired
results on time. These reports can also help to identify the crux of the problems
and make suggestions about how to improve the resettlement work.

3. The Contents of Independent Monitoring and Evaluation

(1) Independent Monitoring and Evaluation on Implementation Progress of
Land Acquisition and House Demolition

The implementation progress of land acquisition includes
- The progress of land acquisition;
- The progress of the new sites for house relocation;
- The demolition progress of house and attached facilities;
- The progress of relocation house construction;
- The progress of relocating and rehabilitation of PAP;
- The progress of the relocation and reconstruction of infrastructure.

(2) Independent Monitoring and Evaluation on Resettlement Fund
Availability and Utilization

Resettlement fund availability and utilization include:
- Funds allocation and availability;
- Funds utilization (planning and actual).

(3) Independent Monitoring and Evaluation on Houses Demolition and
Reconstruction

House demolition and reconstruction include:
- Housing condition and living environment before relocation;
- Objectives of houses demolition and reconstruction;
- Housing condition and living environment after relocation;
- The comparative analysis and evaluation on housing condition and living environment before and after relocation.

(4) Independent Monitoring and Evaluation on Land Adjustment and Living Standards of the PAPs in Land-requisitioned Villages

It includes:
- Cultivated land and living standards of PAPs before relocation;
- Cultivated land and living standards of PAPs after relocation;
- The comparative analysis and evaluation on cultivated land and living standards of PAPs before and after relocation.

(5) Independent Monitoring and Evaluation on Operation and Efficiency of Resettlement Implementation Organization

4. Technical Route

See Figure 1 for the technical route of independent monitoring and evaluation.
Figure 1 Technical Route of Independent Monitoring and Evaluation.
5. Organization and Division of Labor of Resettlement Monitoring and Evaluation

(1) The National Research Center of Resettlement (NRCR) is entrusted by UEPO to be in charge of the surveys, data collection and analysis work of the independent monitoring and evaluation, while UEPO is responsible for the examination of its results.

(2) NRCR sets up the Resettlement Monitoring and Evaluation Group of Urban Environment and Water Supply Project of Tangshan City (M&E group). The tasks of the group include:

- Guided by the project manager of the World Bank, M&E group will carry out resettlement monitoring and evaluation of the project;
- Compilation of the outline of resettlement monitoring and evaluation;
- Monitoring site selection;
- Outwork such as on-the-spot survey and monitoring and indoor work such as data processing and data analysis;
- Compilation of resettlement monitoring and evaluation reports.

(3) UEPO provides required personnel, transport equipment and other facilities for the M&E when on-the-spot survey and monitoring work are conducted.

6. The Method of Resettlement Monitoring and Evaluation

(1) The method of monitoring and evaluation is a combination of field visit, data collection and calculation, comparative analysis, and expert
evaluation.

(2) In the monitoring and evaluation process, both overall surveys and sampling surveys are conducted. Overall surveys are for collecting data of the progress of resettlement implementation, funds, organizations and management, etc. At the same time, sampling surveys of house demolition and reconstruction and living standards of PAPs are made.

(3) Sampling survey adopts various methods such as typical sampling and random sampling to make a tracing survey of the sampling households, shops and enterprises. Sampling sizes of different groups of PAPs are 50% of PAP households of house demolition, 10% of PAP households of land acquisition and resettlement, and 15% of PAP households of temporary land use.

(4) The methods of overall surveys are distributing forms to resettlers and ask them to fill out the forms, interviewing resettlers, holding discussion meetings and checking the files kept in department concerned, etc.

(5) Besides written material, other kind of material need to be collected such as pictures, magnetic tapes, video tape and material objects. Resettlement Monitoring and Evaluation Information System on Urban Environment and Water Supply Project of Tangshan City is also established.

7. Schedule of Resettlement Monitoring and Evaluation

- In January 2000, M&E Group was set up and began to compile the outline of independent monitoring and evaluation.
• Before February 2000, preparations for resettlement monitoring and evaluation have been finished. The preparation work includes:
  • compiling the outline of survey and relevant forms;
  • establishing monitoring system;
  • identifying tasks;
  • monitoring site selection.

• In July 2000, baseline survey will be made.

• The first external monitoring and evaluation will be conducted in November 2000, and its report will be submitted in January 2000.

• The second external monitoring and evaluation will be conducted in December 2001, and its report will be submitted in January 2002.

• The third external monitoring and evaluation will be conducted in December 2002, and its report will be submitted in January 2003.

• The fourth external monitoring and evaluation will be conducted in December 2003, and its report will be submitted in January 2004.
ANNEX

Annex I  The General Outline of the Independent Monitoring and Evaluation on Urban Environment Project of Handan City

1. Introduction to the Project

Land acquisition and house demolition of this project involves 3 districts, 1 county and relevant infrastructure units.

RAP of this project is complied by UEPO, STL and TWC and implemented by LAB and LABRCD. NRCR is in charge of independent monitoring and evaluation of the project.

2. Objectives of Independent Monitoring and Evaluation on Resettlement

According to the requirement of OD4.30 Involuntary Resettlement and annex 3 in the technical document No.80 of the World Bank Involuntary Resettlement and Rehabilitation in Development Projects — Guidelines of Policy for the World Bank Loan Projects, NRCR undertakes the independent monitoring and evaluation on the resettlement of Urban Environment Project of Handan City. NRCR will survey the fund availability and utilization, project management and progress of land acquisition, house demolition and resettlement, conduct comparative analysis and evaluation on changes in production, business and living condition of PAUs and PAPs before and after relocation and then make an evaluation for the progress of land acquisition, house demolition, relocation and rehabilitation. It will submit regular monitoring and evaluation report (once a year) to the World Bank, UEPO and the relevant departments in charge of the project. At the same time, it will also provide information and suggestions for the departments concerned making decision. From these reports, the World Bank and the
Annex C  Sketch Map of Water Supply Project of City Center

Projected Water Transfer Pipe
Douhe Reservoir

Projected Water Purification Plant
Beijiao Water Purification Plant
Projected Main Water Delivery Pipe

Legend

- Existing Water Transfer Pipe
- Projected Water Transfer Pipe
- Projected Water Delivery Pipe
- Existing Pumping Station
- Projected Pumping Station
- Existing Water Purification Plant
- Projected Water Purification Plant