



Social Monitoring Report

Project Number: 33177
June 2006

PRC: Harbin Water Supply Project

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Harbin Municipal Water Supply Construction Leading Group Office

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Asian Development Bank

THE PEOPLE'S REPUBLIC OF CHINA

HARBIN MOPANSHAN WATER SUPPLY PROJECT

ADB LOAN NO. 1995-PRC

**Third Monitoring and Evaluation Report
on Land Acquisition and Resettlement**

HARBIN WATER SUPPLY COMPANY LTD.

JUNE 2006

TABLE OF CONTENT

1. BACKGROUND.....	7
2. METHODOLOGY	8
3. PROJECT CONSTRUCTION PROGRESS.....	9
3.1 MOPANSHAN RESERVOIR.....	9
3.2 RAW WATER PIPELINE.....	10
3.3 WATER TREATMENT PLANT	11
3.4 WATER DISTRIBUTION NETWORK	11
4. LAND ACQUISITION AND RESETTLEMENT PROGRESS	11
4.1 AFFECTED ADMINISTRATIVE AREAS	11
4.2 NUMBER OF AFFECTED HOUSEHOLDS AND POPULATIONS.....	13
4.3 PROGRESS ON LAND ACQUISITION	15
4.3.1 Land Acquisition for Mopanshan Reservoir Construction.....	16
4.3.2 Land Acquisition for Water Treatment Plant	20
4.3.3 Water Supply Pipeline.....	22
4.3.4 Water Distribution Network.....	27
4.4 HOUSE AND AUXILIARY DEMOLISHMENT	27
4.5 PUBLIC PROPERTIES	32
4.6 LOSS OF TREES.....	36
4.7 BASIC INFRASTRUCTURES AND SPECIAL FACILITIES.....	38
5. COMPENSATION.....	41
5.1 PRINCIPLES OF COMPENSATION.....	41
5.2 COMPENSATION RATES.....	41
5.2.1 Compensation rates for permanent agricultural land acquisition	42
5.2.2 Compensation Rates for Forest Land.....	42
5.2.3 Compensation rates for temporary land occupation.....	48
5.2.4 Compensation rates for housing	49
5.2.5 Compensation rate for attachments and other structures.....	50
5.2.6 Compensation rates for public utilities and infrastructure.....	52
5.2.7 Compensation rates for moving and transportation.....	53
5.2.8 Provisions for Vulnerable Groups	54
5.3 SATISFACTION OF APS	54
6. RELOCATION AND REHABILITATION	60
6.1 RELOCATION AND HOUSING RECONSTRUCTION.....	61
6.2 INCOME AND LIVELIHOOD RESTORATION	66

6.3	RESTORATION OF INFRASTRUCTURE AND PUBLIC FACILITIES	67
7.	COMPENSATION DISBURSEMENT AND FLOW OF FUND	68
7.1	DISBURSEMENT FOR RESERVOIR INUNDATED AREAS	68
7.2	DISBURSEMENT FOR WATER TREATMENT PLANT	70
7.4	DISBURSEMENT FOR WATER PIPELINES	71
7.5	FLOW OF FUND	78
8.	PUBLIC CONSULTATION AND GRIEVANCE PROCEDURES	79
8.1	PARTICIPATION AND CONSULTATION	79
8.2	INFORMATION DISCLOSURE	84
9.	GRIEVANCE PROCEDURES	84
10.	INSTITUTIONAL ARRANGEMENT AND CAPACITY BUILDING	86
11.	MAJOR PROBLEMS ENCOUNTERED AND WORK TO BE DONE	90
11.1	MAJOR PROBLEMS ENCOUNTERED	90
11.2	WORK TO BE DONE FOR NEXT SIX MONTHS	91
12.	CONCLUSION AND SUGGESTIONS	91
12.1	GENERAL CONCLUSIONS	91
12.2	RECOMMENDATIONS	92

ABBREVIATIONS

AAOV	Annual agricultural output value
ADB	Asian Development Bank
AP	Affected people
EA	Executive agency
HH	Household
HWSC	Harbin Water Supply Company Limited
IA	Implementing agency
LAR	Land acquisition and resettlement
M&E	Monitoring and Evaluation
NDRC	National Development and Reform Commission
PRC	People's Republic of China
RMB	Renminbi, official currency of PRC
RO	Resettlement Office
RAP	Resettlement Action Plan
RLG	Resettlement Leading Group
TRO	Township Resettlement Office
VAC	Village Administration Committee

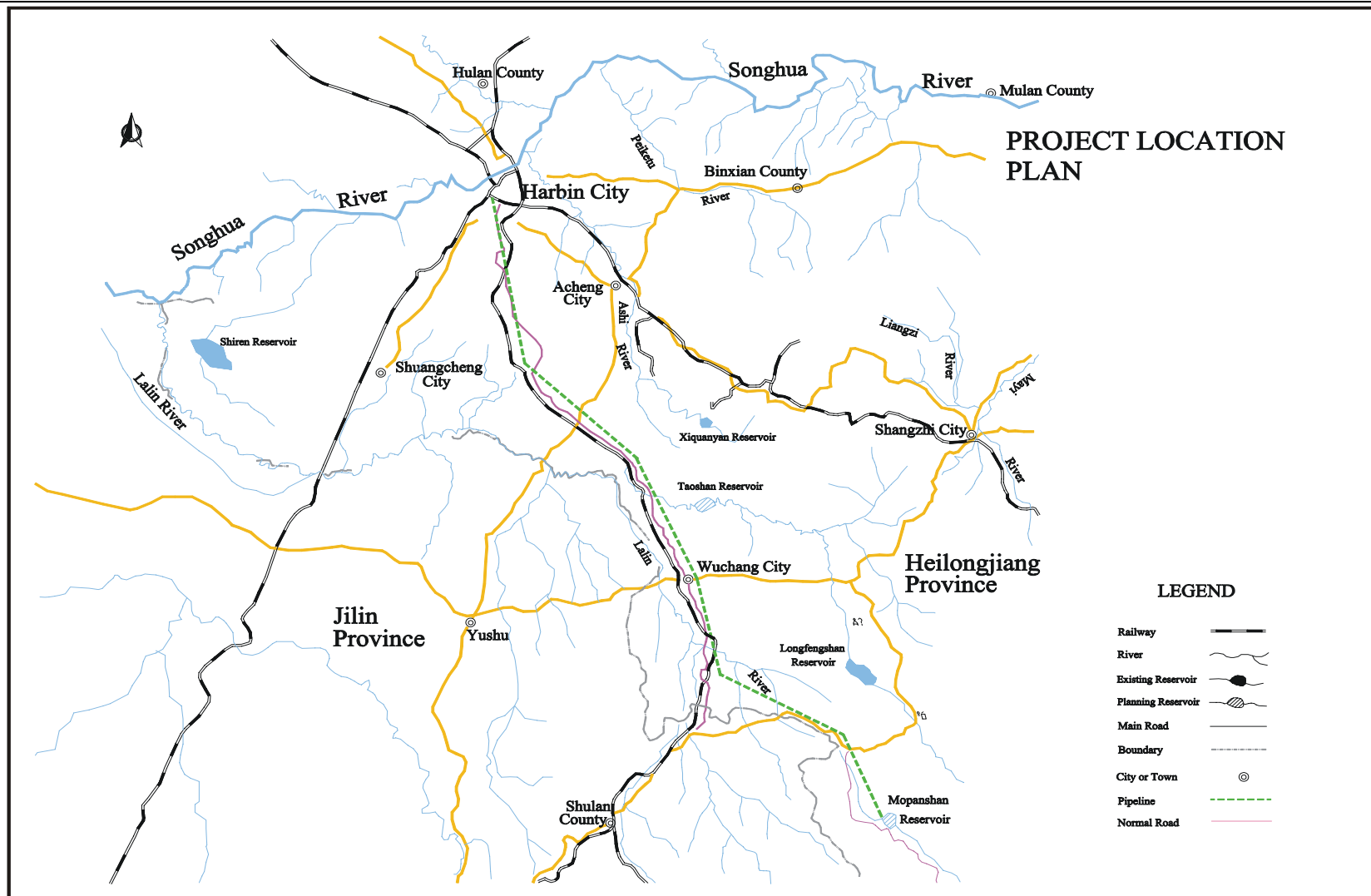


Figure 1. Project Location Map

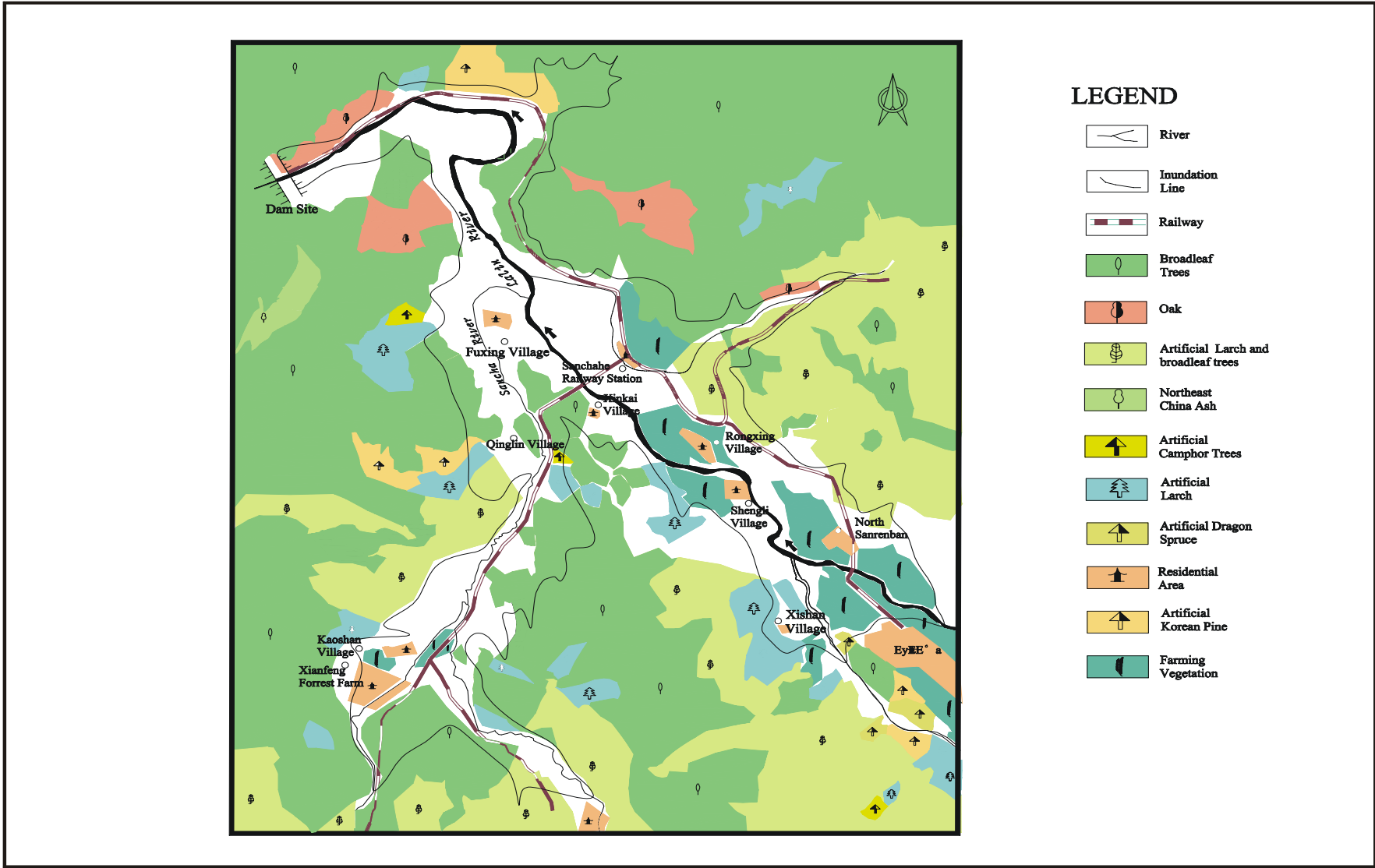


Figure 2. Mopanshan Inundated Area

1. Background

The Asian Development Bank (ADB) partially funded Harbin Mopanshan Water Supply Project (the Project) consists of four components:

- a multi-purpose dam at Mopanshan on the Lalin River, having a regulated storage volume of 459 million m³ and dead storage of 33 million m³;
- a raw-water pipeline of 2,200-2,400 mm in diameter and 175.5 km in length from Mopanshan Dam to the city of Harbin;
- a potable-water treatment plant with a treatment capacity of 450,000 m³/day; and,
- expansion and rehabilitation of the water distribution network in the urban area, consisting of 59.95 km of new trunk mains ranging from 600 mm to 1,800 mm in diameter, and 51.5 km of branch water pipes 100 mm to 500 mm in diameter.

The general objectives of the Harbin Water Supply Project are to improve the existing inadequate supplies of water to the urban area of Harbin, enhance the safety of drinking water sources to the city, and contribute to poverty alleviation, health improvements and economic development of the region. The reservoir is located some 180 km from the city, connected by the water transfer pipeline to the city where other components are located, as shown in **Figure 1**.

In the Project preparation stage, project area baseline conditions, project impacts from land acquisition and resettlement, impact mitigation measures, compensation programs and rehabilitation actions for the project affected peoples (APs) were identified, evaluated and developed by the Implementing Agency (IA). The results of the preparation stage work has been summarized and incorporated into the project Resettlement Action Plan (RAP), which has been served as the primary guide for the resettlement work during project implementation, and thus the main reference and criteria against which resettlement monitoring was conducted.

This report presents the findings of the third monitoring and evaluation (M&E) of the land acquisition and resettlement (LAR) program. It covers the period of January through June 2005. The main objective of the M&E is to determine on an independent basis whether the compensation, relocation, resettlement and rehabilitation are implemented according to the approved RAP and to identify discrepancies, if any, between the planned and actual land acquisition and resettlement.

The comparative analysis between the planned RAP or government approved data and actually implemented for the period between the beginning of January and the end of June 2005 has been made for the scope of land acquisition and resettlement, compensation rates, rehabilitation measures, information disclosure and grievance procedures, institutional arrangement and capacity building, disbursement. Corrective actions will be proposed and recommended as appropriate and warranted, following the identification of deficiencies, if any, and evaluation of the monitored data and site observations.

It should be noted that during the Project implementation stage, some changes have

been made on the scope of land acquisition and resettlement impacts, affected index and budget based on some engineering changes during preliminary design and actual construction as well as approved budget by the Government. As a result, the RAP was requested to be revised by the Resettlement Monitor and ADB to submit to ADB for clearance. However, the Resettlement Office of Harbin Water Supply Company Ltd. (HWSC) disagreed with this revision as they consider the changes are minor, plus the Resettlement Monitor will keep track of the changes and report the latest development in subsequent monitoring reports. In view of the above situation, the resettlement monitoring will still use the originally approved RAP by ADB as the base.

The current monitoring period involved many different on-going activities on land acquisition, structure and auxiliary demolition, moving, construction, resettlement, and rehabilitation that are occurring concurrently. The data may change by the day due to the on-going resettlement and data collection activities and different levels of resettlement offices may use different tabulation and different methods for data collection, which is different from the tabulation and categorization in the Project RAP. In addition, the data of the land acquisition and relocation is scattered at different office without centralized data management system, the Resettlement Monitor encountered great difficulties to compile consistent data for the resettlement monitoring. Although great efforts have been put into data collection and verification during this monitoring exercise, it should be noted that this Resettlement Monitoring Report still leave some data discrepancies to be verified for next resettlement monitoring.

Recommendation has been made in the last resettlement monitoring report for the local resettlement offices to use computers in data filing and management and establish computerized network and unified filing system among difference resettlement offices where data are collected and filed. However, due to the budgetary constraints, this recommendation has not been adopted. As a result, this report endeavors, on a best effort basis, to use the available data at the time to demonstrate the progress and performance of the resettlement. Wherever possible, collected data for actual resettlement work are compared with those in the RAP and approved by the Government for evaluation and analysis.

2. Methodology

According to the arrangement of the Project RAP, the monitoring and Evaluation (M&E) of the land acquisition and resettlement implementation is divided into two aspects: internal monitoring and external monitoring. The internal monitoring is carried out continuously by HWSC which is the Project Executive Agency (EA), with cooperation from the Resettlement Implementation Agencies, and the local governments at the affected village, township, county and municipality levels. The information is compiled from the villages, the resettlement offices at township/forest station, Wuchang City/Shanhetun Forest Bureau, and finally to HWSC. The internal monitoring serves as a useful tool for the HWSC to gain an understanding of the overall progress in terms of disbursement of compensation funds, implementation and effectiveness of rehabilitation measures, and to correct problems if they occur.

The external monitoring is conducted by independent consultants, engaged by HWSC.

The objective of independent M&E is to understand the progress of the land acquisition and resettlement process and the actual results achieved against the goal, schedule, standards and expected results set out in the approved RAP. Specific focus of the independent monitoring is placed on the timeliness and adequacy of the actual amounts of compensation vs. the entitlements, grievances and corrective actions, and implementation and effectiveness of livelihood rehabilitation measures. The external or independent monitoring is to identify gaps, deficiencies in the implementation stage to allow prompt corrective and remedial actions taken as may be necessary to ensure the impacts to the APs minimized.

The primary monitoring methodologies for the current monitoring consisted of land acquisition and resettlement data collection, meetings with relevant personnel of HWSC, and Wuchang and Shanhetun Forest Bureau. Two field visits were conducted in June and September 2005 to the forest bureau and Wuchang city where a series of meetings were held with resettlement officers, and a few relocation areas were visited, and cases of relocated households were reviewed. Due to very tight time schedule of preparatory work for the reservoir water storage and difficulties to make logistic arrangements by the EA and the Resettlement Office (RO) of Wuchang City, the resettlement specialist could not visit the relocated families of Wuchang City during this monitoring. Visits were only made to the relocated households in Shanhetun Forest Bureau during this monitoring period.

3. Project Construction Progress

The physical construction of the Project is expected to be completed by December 31, 2007. A summary of the Project progress to date of the above components is described in the following sections. **Appendix 1** includes the bar charts of the implementation schedule which provide the overall progress of the Project components. Based on the bar charts, it is assessed to be some 68% complete when based upon the assessment as used in the bar charts and by which progress has been monitored previously, including the aspects of: i) land acquisition; ii) resettlement; iii) preliminary and final design; iv) tendering; and v) construction.

3.1 Mopanshan Reservoir

The land acquisition has been completed. The resettlement activities have continued to the apparent satisfaction of all involved. Initial budget estimates were exceeded but additional funds have been made available as required. The assessment of the land acquisition and resettlement to date is about 75%. The preliminary and final design has been completed. All tendering has been completed also, except one significant contract remains to be tendered. It is estimated that about 90% of the progress has been made to date.

The Project is consisted of 5 sub-components: retaining dam, spillway, water supply holes, diversion and irrigation holes, hydrologic and aquatic environment monitoring system. The basic seepage prevention engineering of retaining dam has been fully completed on April 13, 2005. The designed height of the top dam is 324.50 meters and up to date, 316.00 meters have been filled and constructed and 890,900 m³ of the accumulated earthwork filling and construction has been completed, which accounts

for 82.49% of the overall project engineering construction. The total area of the seepage prevention walls is 9,572.88 m², which has been fully completed. The grout curtain which is 4,803.98 m² has also been completed. The end of step section of spillway is 14.6 meters wide and the total length of gradually changed diversion walls is 36 meters. The length of the rectangle control section is 25 meters and the net width is 12 meters for each hole. All the engineering construction has been totally completed, of which the total earthwork is 340,000 m³ and the filled concrete is 21,800 m³. The diversion and irrigation holes are mainly composed by tower-style water inlets, tunnels, outlet lock chamber and flip trajectory bucket parts. The civil works have been totally completed, of which the total length of the holes is 211.5 meters and earthwork excavation is 42,300 m³ and the completed filling of concrete is 9,800 m³. The water supply holes are mainly composed by tower-style water inlet and pressure conduit. The holes which are 1,384 meters long have been totally completed. The reinforcement bars in the holes which are 405 meters long have also been completed, which accounts for 29.26% of the total engineering works. The concrete engineering of water intake tower has been totally completed and 6,900 m³ concretes have been casted and constructed. For the hydrologic and aquatic environment monitoring system, 14 remote measuring rainfall stations will be built within the scope of construction river basin above the dam site and 4 at the downstream. The civil works and equipment installment have been fully completed and have passed the engineering check and acceptance. Meanwhile, HWSC has paid special importance to the environmental protection work of the reservoir area. Since April of this year, the agriculture land and forestland below 318 reservoir line have been cleared. After 2-month efforts, the agriculture land prevention and rehabilitation problems have been resolved and the hygienic and epidemic prevention activities have been carried out.

The only problem is with the exit section of the raw water supply tunnel where a series of minor collapses have slowed the rate of progress. However, this is not anticipated to delay the Project. It is still anticipated that construction works on the dam and all associated works will be sufficiently complete to permit the commencement of impounding to take place in autumn 2005 as expected.

3.2 Raw Water Pipeline

The land acquisition has been completed, as well as resettlement as proposed in the original RAP. However, due to the change of pipeline route, additional land will be occupied and a few additional houses will be demolished. The increased scope of impacts for raw water pipeline construction will be reflected in the next monitoring report. The preliminary and final design has been completed. The tendering has also been completed.

At the end of June, 2005, the total completed pipeline installation was 100 km out of the total 176.5 km to be laid. This represents the installation works being some 50% complete. Of the total completed pipeline installation, PCCP pipelines have completed 85 km from the reservoir towards the city and the steel pipe installation had completed 15 km. The pipeline manufacturers had completed 138 km. Meanwhile, 68 big and small well houses had been completed. The 14 pipeline crossing of various railways and roads had also been completed. The progress made on this component to date is about 55%. It is anticipated that the overall works will be completed by the end of the 2005 construction season.

3.3 Water Treatment Plant

The land acquisition and resettlement has been completed. The preliminary and final design, and tendering have also been completed.

For the progress of all civil works, the main structure of the water treatment plant, including administration building, clear water tank, pumping stations, water purification shop, chemical injection shop, chlorination shop, backwash tower, wastewater collection tank and sludge disposal shop had been completed. The water testing of the water retaining structure is in progress. All hoists and cranes have been installed ready for use during the equipment installation process. The finishing works of all buildings associated with the water treatment works, i.e. painting and decorating, are currently in progress. The completion for the external wall decoration is 80% and 70% for the internal decoration. Within the water treatment plant, all pipeline engineering works have been completed except the water supply pipeline. The drainage pipeline has also been completed. In total, 14 valves have been installed, which account for 80%. The construction works of the component should be completed in autumn and therefore ready for commissioning. It is currently proposed to commission all items of equipment individually later this year and be ready for final commissioning as soon as water is made available. It is planned to carry out the construction of the internal access roads and landscaping during spring 2006. Overall the works are considered to be some 65% complete. The water testing of the progress related structure is in progress, which accounts for about 1% of the progress.

3.4 Water Distribution Network

The land acquisition and resettlement activities have been completed. The preliminary and final design, and tendering have also been completed.

The construction works have been awarded as ten contracts. For Contract 1 and 2, land acquisition has proved to be difficult and has experienced slow progress; and for Contract 3 to Contract 10, land acquisition has proved to be difficult and has slowed progress, and progress has also been hampered by the extent of existing services and the need to ensure free flow of traffic.

It is currently anticipated that all works on the distribution networks, as included in the Project, will be completed by the end of August 2006.

4. Land Acquisition and Resettlement Progress

4.1 Affected Administrative Areas

According to the approved RAP by ADB in 2002, the Project impacted area of land acquisition and resettlement includes four (4) cities, ten (10) townships, 24 villages and one (1) forest bureau with three (3) forest stations. The impacted area is defined as administrative jurisdictions which would lose land permanently or temporarily and houses to the Project construction.

However, during actual implementation of the land acquisition and resettlement, the Project affected areas for the pipeline construction have been changed significantly due to the change of pipeline route. As a result, the number of affected townships and villages has been changed from 10 townships to 12 townships and 24 villages to 59 villages. The affected areas for Mopanshan Reservoir, Water Treatment Plant, and Water Distribution Network remain the same with the RAP. **Table 4.1** presents the impacted areas between RAP and actually involved.

Table 4.1 Affected Administrative Areas by LAR

City	Township		Village	
	RAP	Actual	RAP	Actual
Mopanshan Reservoir				
Wuchang	Shahezi	Shahezi	Mopanshan	
			Sanchahe	
			Sanrenban	
			Dagui	
Shanhetun Forest Bureau ¹			Hansong Forest Station	
			Xianfeng Forest Station	
			Sanchahe Forest Railway Station	
Raw-water Pipeline				
Wuchang	Lalin	Lalin	Hounajia	Dongmen
			Houhejia	Zhenbei
			Najiawobao	Taiping
			-	Minfeng
			-	Beitu
			-	Shiren
	-	Shahezi	-	Mopanshan
			-	Shahezi
			-	North Shahezi
			-	Limushan
			-	Halahezi
			-	Shuanglong
	Xiangyang	Xiangyang	Kanxianggou	Zhifu
			Zhonghetun	Jianguo
			Jiangjia Veg. Garden	Qunfu
			-	Sanhao
			-	Sanzhong
			-	Zhongyuan
			-	Dong Xinli
			-	Xintu
			-	Baoshan
			-	Yongxing
	Beiyinhe	Beiyinhe	Baiqi	-
			Lanqi	Lanqi
			Liufu, Tangjia Tun	Beiyinhe
			Duiwangjia	Guanjia
	Dujia	Dujia	153	Kaifa
			Dujia Oil Mill	Yonglian
			-	Xianfeng
			-	Qiyi
			-	Dujia
			-	Xingfu
			-	Changxing
			-	Banjihezi

City	Township		Village	
	RAP	Actual	RAP	Actual
	Niuja	Niuja	Hejiawobao	Zhengxin
			Yaliutun	Niuja
			-	Zhengfu
			-	Zhengpu
	-	Yingchengzi	-	Yingchengzi
	-	Wuchang	-	Huashu
			-	Wanbaoshan
			-	Jinshan
	Anjia	Anjia	Zhongxin Tun	Taipingqiao
			-	Fangshengang
			-	Dengta
			-	Shuangyue
			-	Pingyuan
			-	Shangxi
			-	Anjia
	-	Taipingqiao		
Acheng	Lixinxiang	Lixinxiang	Zhaojiawaizi	
Shuangcheng	Zhoujia	Zhoujia	Qianchanghazi	
			Qianchanghaziloufang	
Harbin	-	Chaoyang	-	Fumin
Water Purification Plant				
Harbin	Chaoyang	Chaoyang	Pingsun	
			Xinfa	
			Xianfen	
Water Distribution Network				
Harbin	Urban districts		-	

Note: 1) Shanhetun Forest Bureau is under Heilongjiang Forest and Industry Bureau.

4.2 Number of Affected Households and Populations

According to the RAP prepared in 2002, a total of 1,740 households or 6,022 people will be affected by land acquisition and resettlement of the Harbin Water Supply Project. Of the total affected people, 1,499 households or 5,175 people are from the reservoir inundation in Wuchang City and Shanhetun Forest Bureau. However, according to the Preliminary Design Report in 2003, 1,798 households or 6,334 people will be affected by land acquisition and resettlement, of which 1,146 households or 4,444 persons in Wuchang city, including 470 households or 1,722 persons will be relocated for the Sanrenban Village and Dagui Village, of which 355 households or 1,293 persons are from Sanrenban Village (127 households or 466 persons will be affected by inundation for both land and houses, and 228 households or 827 persons will be affected by inundation for land only) and 115 households or 429 persons from Dagui Village (51 households or 193 persons will be affected by inundation for both land and houses, and 64 households or 236 persons will be affected by inundation for land only), and 652 households or 1,890 in Shanhetun Forest Bureau. **Figure 2** provides the map of the Project inundated area, and **Appendix 2** the photos of LAR in reservoir inundated areas.

Up to the end of June, 2005, 853 households or 3,202 persons in Wuchang City have been relocated, including the people from Sanchahe Village and Mopanshan Village

of Wuchang City. Since March of 2005, the Resettlement Office of Wuchang City has formally moved to live in Sanrenban Village and Dagui Village. After the completion of baseline investigation and confirmation, the relocation has been started. In May, a total of 50 households or 180 persons have been completed moving out of the Bei Sanrenban Village. Up to the end of June, Sanrenban Village (Bei Sanrenban *Tun* and Kaoshan *Tun*) has already completed relocation of 223 households or 624 persons. All of them will be affected by inundation for both land and houses.

For the Shanhetun Forest Bureau, 652 households or 1,890 persons need to be relocated who will be arranged to move to the three new resettlement sites of Qifengshan Forest Station, Fengdou Forest Station and Dongfeng Forest Station, respectively. So far, 87 households or 232 persons have been moved. Currently, baseline investigation and confirmation and policy education and promotion are being undertaken.

For the pipeline construction, due to slight changes of the pipeline routing and insufficient accuracy of pipeline installation by the construction unit, it caused slight changes of house demolition. With the field investigation and confirmation by the Resettlement Office of HWSC, Pipeline Office of HWSC, Resettlement Office of Wuchang City, Resettlement Supervision Company, Northern (Huabei) Design Institute, construction unit and relevant villages and *tuns*, for 10 tendering sections of the water supply pipeline, it was identified that 170 households or 372 persons would be affected. Of which 83 households would be affected by house demolition and 87 households without house demolition. Up to date, all of the identified households have been compensated and relocated.

For the water treatment plant, 140 households or 342 has been affected by the permanent land acquisition without involving any house demolition and relocation.

Table 4.2-A provides the comparison for the number of affected households and population by land acquisition and resettlement between RAP, approved by government and actually implemented, and **Table 4.2-B** the comparison for the number of affected households and population by land acquisition and resettlement between RAP, approved by government and actually implemented by village and percentage.

Table 4.2-A Summary of Households and Population Affected by Land Acquisition & Resettlement (Unit: No.)

Components	Households & Populations Affected					
	Total Households			Total Populations		
	RAP	Gov't	Actual to Date	RAP	Gov't	Actual to Date
Mopanshan reservoir (Wuchang)	859	1,146	1,076	3,314	4,444	3,826
Mopanshan reservoir (Shanhetun)	640	652	46	1,861	1,890	156
Pipeline	101	170	170	505	372	372
Water treatment plant	140	140	140	342	342	342
Water distribution network	0	0	0	0	0	0
Total	1,740	2,108	1,432	6,022	7,048	4,696

Table 4.2-B Number and Percentage of Households and Population Affected by Land Acquisition and Resettlement (Unit: No. & %)

Villages	Approved by Government (No.)		Actual To date					
			Dec. 2004 (No.)		Jun. 2005 (No.)		Jun. 2005 (%)	
	HH	Popu.	HH	Popu.	HH	Popu.	HH	Popu.
Wuchang City								
Mopanshan	-	777	166	746	835	3,202	31%	117%
Shanchahe	-	1,950	492	1,888				
Sanrenban	-	1,252	-	-	223	624	-	49.8%
Dagui	-	428	-	-	-	-	-	0%
Subtotal	1,146	4,444	658	2,634	1,076	3,826	93.9%	86.1%
Forest Bureau								
Forest Stations	HH	Forestry Workers	HH		Forest Workers		HH	Forestry Workers
Xianfeng	408	1,203	21	71	36	116	8.8%	10%
Hansong	193	569	2	7	2	7	1%	1%
Shanchahe	51	118	3	11	51	116	100%	100%
Subtotal	652	1,890	26	89	87	232	13%	12%
Pipeline	170	372	105	325	170	372	100%	100%
Water Plant	140	342	-	-	140	342	100%	100%
Distribution Network	-	-	-	-	-	-	-	-

4.3 Progress on Land Acquisition

According to the RAP prepared in 2002, in total, the project will involve 883 ha or 13,245 mu of permanent land acquisition, 650 ha or 9,750 mu temporary land occupation. **Table 4.3** provides the summary for the scope of impacts and progress made on permanent land acquisition and temporary land occupation for the construction components of the reservoir, pipelines, water treatment plant, and water

distribution network. As shown in **Table 4.3**, the actual permanent land acquisition is 4,462 mu or 9.5% smaller than the figure in the RAP, and the actual temporary land occupation is 1,233 mu or 13% higher than the figure in the RAP. In general, the land acquisition had been progressed as planned and had met the requirement for the Project construction.

Table 4.3 Scope of Impacts and Progress of Permanent Land Acquisition and Temporary Land Occupation

Components	Permanent Land Acquisition			Temporary Land Occupation		
	RAP	Gov't	Actual	RAP	Gov't	Actual
Mopanshan reservoir (Wuchang)	22,544	43,963	21,823	970 ²	3,473 ³	3,473 ³
Mopanshan reservoir (Shanhetun)	22,526		20,032			
Pipeline	1,469	154	154	8,107	8,138	6,852
Water treatment plant	381 ¹	448	448	-	300	300
Water distribution network	-	-	-	315	616	-
Total	46,919	44,565	42,457⁴	9,392	9,954	10,625

Note: ¹ The households affected only by permanent land acquisition.

² It only includes the agricultural and non-agricultural land acquired by the reservoir construction and excludes the forest land.

³ The total area includes 900 mu of agricultural and non-agricultural land and 2,573 mu of forest land.

⁴ This figure excludes the disputed land of 1,516 mu.

4.3.1 Land Acquisition for Mopanshan Reservoir Construction

Following the RAP preparation and clearance, some of the data have been modified based on the newly available site information or on the changes in Project design. Therefore, the final government approved resettlement impacts differed in some categories. **Table 4.3** shows the impacts between RAP, approved by government, and actually involved, with the difference mostly occurred for the Mopanshan reservoir component. The resettlement progress was reviewed and compared against the final government approved data while where there is no change, the original RAP data are used in this report for progress comparison.

According to the approval by the Government, the reservoir construction requires 2,930.85 ha or 43,962.75 mu of permanent land acquisition, including 2,893.49 ha or 43,402.28 mu for inundated areas, 7.35 ha or 110.25 mu for the dam engineering, 2.01 ha or 30.18 mu for the protection area, 0.84 ha or 12.6 mu for hydrologic station, 0.63 ha or 9.51 mu for the transmission line, 1.68 ha or 15.2 mu for the administration zone, and 6.74 ha or 101.09 mu for the reservoir road construction. The permanent land acquisition for reservoir engineering itself was approved by the Ministry of State Land Resources in March 20, 2003, and the permanent land use for reservoir engineering construction was agreed by the State Council and approved by the Ministry of State Land Resources in May 22, 2003.

As shown in **Table 4.4**, land acquisition data for the Mopanshan reservoir are very detailed and breakdown by the nature of the land. Compared with the planned land acquisition in the RAP, the actual land acquisition is 1,677 mu or 3.7% smaller. At the end of June, 2005, all land acquisition for Mopanshan reservoir has been completed although not all acquired land had been inundated or utilized by the Project.

Of the total land acquired permanently for the reservoir construction, 1,841.43 ha or 27,621.38 mu are permanent forest land, of which 54.14 ha or 812.1 in Wuchang City, 1,796.29 ha or 26,944.28 mu for the Shanhetun Forest Bureau, approved by the State Forest Bureau in January 17, 2003 and January 22, 2003, respectively. By the end of June, 5,591 mu in Wuchang City and 21,525 mu in Shanhetun Forest Bureau were acquired, respectively (see **Table 4.3**).

Review of the approved documents during the current monitoring showed that all these land had been approved by appropriate land administration authorities, respectively (Ministry of Land Resources for permanent land acquisition, State Forest Bureau for permanent forest land acquisition and Wuchang City Land Resources Bureau, Acheng City Land Resources Bureau, Shuangcheng City Land Resources Bureau, and Harbin City Land Resources Bureau for temporary land uses). At the end of June, 2005, these lands had been acquired for Project construction and compensation disbursed for the land owners.

For the reservoir construction, about 60 ha or 900 mu of agricultural and non-agricultural land has been temporarily occupied up to now, which was approved on May 6, 2003, December 27, 2003, and October 25, 2004. About 171.53 ha or 2,572.99 mu of forest land were occupied temporarily, which was approved on January 22, 20003.

In the inundated area of Wuchang City, the Resettlement Office of Wuchang City completed the reservoir bottom clearance work of Sanchahe Village and Mopanshan Village last year according to the “Mopanshan Reservoir Water Supply Project Implementation Guideline of Hygienic Cleaning/Disinfection and Rat Eradication in Reservoir Area” and “Mopanshan Water Supply Hygienic Cleaning Agreement in the Reservoir Area”. The households whose land and houses in Bei Sanrenban Village and Dagui Village will be inundated have been moved. Currently, the reservoir bottom clearance is being undertaking. It is expected that the completion of reservoir bottom clearance and check and acceptance will be achieved by the end of August.

Up to date, the Shanhetun Forest Bureau has completed the clearance and check and acceptance work of forest land. Due to the fact that the relocation has not been completed in Shanhetun, the clearance of the ground attachment has not been completed. So far, only the ground attachment in Sanchahe Station has been cleared. With the progress of resettlement, the outstanding clearance work will be completed as quickly as possible to meet the requirements of the reservoir to store water by the end of August.

The clearance of the reservoir area is carried out by Harbin Disease Prevention and Control Center. For Phase I, the hygienic disinfection and rat eradication to prevent the pollution in Sanchahe Village and Mopanshan Village have been completed. For

the Phase II, Harbin Disease Prevention and Control Center has completed hygienic cleaning for Sanchahe Station under the administration of Shanhetun Forest Bureau. Currently, check and acceptance are being undertaken.

Table 4.4 Permanent Land Acquisition for Mopanshan Reservoir (mu)

Location			Permanent Land Acquisition (mu)														
			Total	Paddy	Dryland	Veg. Land	Irrigated	Orchard	Forest Land	Homestead	Unused	Grass Land	Road	Pond	Fish Pond	Water Body	Other Land
Wuchang	Dagui	RAP	3,594	481	1,982	-	-	90	382	32.0	474	-	18.0	-	17.0	118	-
		Actual	1,812	700	906	-	14	-	71	-	-	-	17.0	-	4.0	-	73.00
	Mopanshan	RAP	3,717	81	1,908	-	-	-	556	-	604	-	-	-	429.0	139	-
		Actual	2,964	938	1,778	0.228	16	-	121	-	-	-	16.0	95.00	-	-	0.65
	Sanchahe	RAP	13,710	3,510	2,577	-	-	441	4,487	246.0	1,880	-	65.0	-	411.0	93	-
		Actual	12,581	6,159	5,050	-	11	-	354	-	-	24	64.0	25.00	52.0	-	715.00
	Sanrenban	RAP	1,523	229	908	-	-	105	166	25.0	37	-	7.0	-	41.0	5	-
		Actual	4,466	1,112	3,066	-	21	-	89	-	-	-	12.0	-	9.0	-	132.00
Subtotal	RAP	22,544	4,301	7,375	-	-	636	5,591	303.0	2,995	-	90.0	-	898.0	355	-	
	Actual	21,823	8,909	10,800	0.228	62	-	-	-	-	24	109.0	120.00	65.0	-	920.65	
Shanhetun Forest Bureau	Xianfeng	RAP	12,460	-	-	-	-	594	11,775	90.0	-	-	-	-	1.2	-	-
		Actual	9,215	636	830	0.807	11	-	5,949	-	-	-	100.0	-	1.2	-	79.00
	Hongxing	RAP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Actual	3,900	23	574	-	-	-	3,691	-	-	-	-	-	-	-	14.00
	Hansong	RAP	2,078	-	-	-	-	95	1,785	189.0	-	-	-	-	9.3	-	-
		Actual	1,453	48	106	-	-	-	1,266	-	-	25	-	-	3.0	-	0.03
	Gongnong	RAP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Actual	1,444	228	60	-	-	-	1,151	-	-	-	0.5	-	3.0	-	-
	Sanchahe	RAP	7,987	-	-	-	-	-	7,965	22.3	-	-	-	-	-	-	-
		Actual	22	-	-	-	-	-	-	-	-	-	-	-	1.5	-	20.00
	Liye	RAP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Actual	3,998	-	-	-	-	-	-	-	-	-	-	-	-	-	999.00
Subtotal	RAP	22,525	-	-	-	-	689	21,525	301.3	-	-	-	-	10.5	-	-	
	Actual	20,032	935	1,570	0.807	11	-	-	-	-	25	100.5	-	8.7	-	1,112.03	
Disputed land		RAP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		Actual	1,516	361	960	-	11	-	50	-	-	-	-	0.12	16.0	-	97.00
Subtotal		RAP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		Actual	1,516	361	960	-	11	-	50	-	-	-	-	0.12	16.0	-	97.00
TOTAL		RAP	45,070	4,301	7,375	-	-	1,325	27,116	604.3	2,995	-	90.0	-	909.0	355	-
		Actual	43,371	10,205	13,331	1.035	84	-	12,742	-	-	49	210.0	120.12	90.0	-	2,129.68

4.3.2 Land Acquisition for Water Treatment Plant

According to the RAP, the construction of the water treatment plant will acquire 381 mu of land, including 309 mu of dryland and 72 mu of forest land permanently.

The permanent land acquisition of water treatment plant is 29.83 ha or 447.46 mu, which was agreed by the State Council and approved by the Ministry of State Land Resources on June 23, 2003. The agreement signing and compensation disbursement for land acquisition of the water treatment plant was conducted by the Resettlement Office of HWSC in association with the Working Station of the Harbin City Land Resources Bureau. The temporary land occupation for the water treatment plant is about 20 ha or 300 mu, and the implementation and compensation was made by the Working Station of the Harbin City Land Resources Administration Bureau. The permanent land acquisition actually involved is the same as approved by the Government. **Table 4.5** provides the permanent land acquisition of water treatment plant between the RAP and actually involved. Compared with the RAP, the land area actually acquired is 17.44% higher than the figure in the RAP, the number of affected villages has been increased from one to three, and the affected types of land had some changes too. In the RAP, only dryland would be acquired, however during the implementation, orchard land, forest land and rural road have also been involved acutally.

Table 4.5 Permanent Land Acquisition of Water Treatment Plant between the RAP and Actually Involved (Unit: mu)

Adminstration Villages	Farmland						Orchard Land		Forest Land				Rural Road		TOTAL	
	Dry Land		Veg. Land		Subtotal				Woodland		Nursery Land					
	RAP	Actual	RAP	Actual	RAP	Actual	RAP	Actual	RAP	Actual	RAP	Actual	RAP	Actual	RAP	Actual
Pingsun	-	262.14	-	-	-	262.14	-	-	-	-	-	-	-	3.01	-	265.15
Xinfa	-	15.61	-	2.75	-	18.36	-	-	-	-	-	0.93	-	0.94	-	20.23
Xianfeng	309.00	92.88	-	10.20	309.00	103.08	-	46.39	72.00	7.26	-	-	-	5.35	381.00	162.08
TOTAL	309.00	370.63	-	12.95	309.00	383.58	-	46.39	72.00	7.26	-	0.93	-	9.30	381.00	447.46

4.3.3 Water Supply Pipeline

According to the RAP, 1,469 mu of land will be acquired permanently for the construction of pipeline, and 8,107 mu of land will be temporarily affected, including 3,361 mu of dry land, 4,537 mu of paddy field, 112 mu of forest land, 262 mu of bush land, and 174 mu of grass land by the pipeline construction.

However, due to the change of pipeline routing, the affected administrative townships and villages, and the permanent land acquisition and temporary land occupation have been changed substantially. The permanent land acquisition for pipeline construction which was agreed by the State Council and approved by the Ministry of State Land Resources is 10.25 ha or 153.71 mu. The implementation and compensation were carried out by the Wuchang City Land Resources Bureau. The total land acquisition actually involved is the same as approved by the Government.

According to the design requirements of temporary land occupation for water supply pipeline construction, and the final measurement by survey and investigation department, the total area of temporary land occupation is 542.55 ha or 8,138 mu, of which 460.52 ha or 6,907.81 mu in Wuchang, 35.59 ha or 533.89 mu in Shuangcheng City, 7.36 ha or 110.39 mu in Acheng City, and 39.07 ha or 586.08 mu in Harbin City. The temporary land occupation for Wuchang Section was formally approved by Wuchang Land Resources Bureau on May 20, 2004. In 2004, 39 ha or 585 mu of temporary forest land occupation were formally approved by the Heilongjiang Forest Bureau. Up to the end of June, 2006, the land used temporarily totaled at 6,852 mu. **Table 4.6** provides the scope of temporary land occupied due to the pipeline construction by village.

So far, the land acquisition and occupation have been completed, as well as resettlement approved by the Government. However, due to the change of pipeline route, additional land will be occupied and a few additional houses will be demolished. The increased scope of impacts for raw water pipeline construction will be reflected in the next monitoring report.

Table 4.6 Scope of Temporary Land Occupied due to Pipeline Construction (Unit: mu)

Administration Villages	Paddy Land	Dry Land	Veg. Land	Orchard Land	Grassland	Other Agricultural Land	Construction Land	Un-used Land	Wood Land	Aquatic Surface	Total
Lalin Township											
Dongmen	2.92	110.59	-	-	-	4.44	-	-	-	35.47	153.41
Zhenbei	8.65	176.53	12.96	-	-	2.59	23.82	2.02	3.39	-	229.96
Taiping	8.81	12.82	1.28	-	-	0.57	-	-	-	-	23.48
Minfeng	20.04	47.49	9.44	-	-	1.21	12.58	1.34	9.05	9.944	111.09
Beitu	91.27	148.80	-	-	-	2.37	-	-	0.20	-	242.64
Shiren	-	96.96	-	-	-	1.34	2.47	0.09	1.44	-	102.29
Subtotal	131.69	593.18	23.68	-	-	12.52	38.87	3.45	14.08	45.41	862.87
Shahezi Township											
Mopanshan	59.34	74.74	0.22	-	-	2.89	3.16	10.45	10.52	-	161.31
Shahezi	148.68	105.70	0.86	-	-	2.12	0.42	5.27	6.04	25.51	294.60
North Shahezi	133.50	25.86	-	0.10	-	0.26	-	1.97	0.97	2.51	165.18
Limushan	26.86	-	-	-	-	0.45	-	-	-	-	27.31
Halahezi	180.85	21.40	-	-	-	3.88	-	3.83	1.85	4.12	215.92
Shuanglong	104.34	9.13	-	-	-	6.34	-	-	0.51	5.95	126.34
Subtotal	653.57	236.83	1.08	0.10	-	15.94	3.58	21.52	19.89	38.09	990.66
Xiangyang Township											
Zhifu	162.00	62.00	-	0.57	-	13.00	16.00	24.00	6.00	0.09	283.00
Jianguo	68.00	28.00	-	-	-	1.05	-	2.00	36.00	-	136.00
Qunfu	100.00	1.25	-	-	-	5.00	-	-	3.00	-	109.00
Sanhao	108.00	-	-	-	-	5.00	0.41	2.00	-	-	115.00
Sanzhong	40.00	-	-	-	-	0.71	-	-	-	-	40.00
Zhongyuan	102.00	-	-	-	-	2.00	0.45	-	-	-	104.00
Dong Xinli	107.00	35.00	-	2.00	-	8.00	12.00	3.00	6.00	-	173.00
Xintu	144.00	0.08	-	-	-	11.00	0.65	-	0.21	-	156.00
Baoshan	52.00	3.00	-	-	-	3.00	-	0.40	-	-	58.00
Yongxing	25.00	37.00	-	-	-	0.37	2.00	-	-	-	64.00
Subtotal	908.00	166.33	-	2.57	-	49.13	32.51	31.40	51.21	0.09	1,238.00
Beiyinhe Township											
Lanqi	26.00	167.00	0.48	-	-	6.00	13.00	-	52.00	-	266.00

Administration Villages	Paddy Land	Dry Land	Veg. Land	Orchard Land	Grassland	Other Agricultural Land	Construction Land	Un-used Land	Wood Land	Aquatic Surface	Total
Beiyinhe	171.00	42.00	24.00	-	-	3.00	-	2.00	-	-	242.00
Guanjia	63.00	102.00	-	-	-	30.00	6.00	2.00	2.00	-	204.00
Subtotal	260.00	311.00	24.48	-	-	39.00	19.00	4.00	54.00	-	712.00
Dujia Township											
Kaifa	68.00	33.00	-	-	-	3.00	3.00	1.22	35	49.00	192.00
Yonglian	126.00	0.36	-	-	-	0.61	11.00	1.18	0.43	-	139.00
Xianfeng	22.00	23.00	-	-	-	0.84	-	-	-	-	46.00
Qiyi	73.00	15.00	0.42	-	-	0.50	-	0.93	-	-	90.00
Dujia	14.00	68.00	2.00	5.00	-	4.00	40.00	11.00	28.00	-	172.00
Xingfu	103.00	3.00	1.11	-	-	2.00	-	0.10	0.36	-	109.00
Changxing	6.00	-	-	-	-	-	-	-	-	-	6.00
Banjihezi	80.00	8.00	10.00	-	-	4.00	2.00	-	0.85	-	105.00
Subtotal	492.00	150.36	13.53	5.00	-	14.95	56.00	14.43	64.64	49.00	859.00
Niujia Township											
Zhengxin	17.00	168.00	4.00	-	-	4.00	13.00	6.00	2.00	-	214.00
Niujia	-	69.00	-	-	-	0.63	-	-	-	-	70.00
Zhengfu	-	142.00	-	-	-	1.08	-	-	-	-	144.00
Zhengpu	-	115.00	-	-	-	2.00	12.00	-	-	-	130.00
Subtotal	17.00	494.00	4.00	-	-	7.71	25.00	6.00	2.00	-	558.00
Yingchengzi Township											
Yingchengzi	16.00	112.00	-	-	-	1.16	-	0.74	0.64	-	131.00
Subtotal	16.00	112.00	-	-	-	1.16	-	0.74	0.64	-	131.00
Wuchang Township											
Huashu	43.00	116.00	2.00	-	-	4.00	7.00	-	3.00	-	175.00
Wanbaoshan	-	59.00	2.00	2.00	-	2.00	14.00	0.92	6.00	17.00	103.00
Jinshan	1.01	65.00	0.48	-	0.699	1.21	4.00	7.00	0.13	2.00	80.00
Subtotal	44	239.00	4.00	2.00	0.699	7.21	25.00	7.92	9.13	19.00	358.00
Anjia Township											
Taipingqiao	-	112.00	0.58	9.00	-	2.00	0.80	2.00	10.59	7.00	144.00
Fangshenggang	2.00	53.00	-	-	-	0.68	-	0.57	14.11	11.00	81.00
Dengta	8.00	17.00	-	1.36	-	0.63	0.13	1.17	21.26	-	49.00

Administration Villages	Paddy Land	Dry Land	Veg. Land	Orchard Land	Grassland	Other Agricultural Land	Construction Land	Un-used Land	Wood Land	Aquatic Surface	Total
Shuangyue	33.00	27.00	-	-	-	0.55	-	-	1.97	-	62.00
Pingyuan	4.00	70.00	-	12.00	-	0.88	-	5.00	0.33	1.33	94.00
Shangxi	7.00	155.00	-	16.00	-	1.338	-	0.44	5.30	4.00	190.00
Anjia	-	98.00	0.29	0.30	-	0.36	3.00	0.08	6.75	6.00	115.00
Xingye	79.00	69.00	-	-	-	2.00	0.36	-	0.06	4.00	154.00
Subtotal	133.00	601.00	0.87	38.66	-	8.44	4.00	9.26	60.37	33.33	889.00
State Land											
Qingshan Forestry Center of Forestry Bureau	63.00	6.00	-	-	-	-	0.66	0.17	111.00	-	181.00
Xiangyang Forestry Center of Forestry Bureau	-	-	-	-	-	-	0.09	-	-	-	0.09
Baoshan Forestry Center of Forestry Bureau	-	-	-	-	-	-	-	-	22.00	-	22.00
Water Conservancy Land of City Government	-	-	-	-	-	-	5.00	32.00	-	-	32.00
Hongqi Sand Factory	-	-	-	-	-	-	2.00	-	-	-	5.00
153 Family House	-	-	-	-	-	-	-	-	-	-	2.00
Eastern Breeding Base	-	-	-	-	-	7.00	4.00	-	-	-	7.00
Dibao Organic Fertilizers	-	-	-	-	-	-	-	-	-	-	4.00
Subtotal	63.00	6.00	-	-	-	7.00	11.75	32.17	133.00	-	253.00
TOTAL	2,718.26	2,909.70	71.64	48.33	0.70	163.06	215.71	130.89	407.89	184.92	6,851.53

4.3.4 Water Distribution Network

According to the RAP, a total length of 111.45 km water distribution network will be constructed. The network will occupy 210,000 m² or 315 mu of urban land. The urban water distribution network will involve the construction of new pipelines or upgrading of existing pipelines.

Based on the design (Nangang Section) and field measurement and investigation, the temporary land occupation for the water distribution network construction is 41.056 ha or 615.84, of which the temporary land use agreement and land occupation in the Chaoyang Township of Dongli District have been completed, and the temporary land use agreement and land occupation in the Wanggang Township of Nangang District has almost been completed.

4.4 House and Auxiliary Demolishment

As a result of the reservoir inundation, it will also necessitate the demolishment of houses. According to the RAP, 50,548 m² private houses will be demolished, of which 512 m² brick concrete, 25,034 m² brick, 8,571 m² mud and brick, and 16,431 m² mud and straw.

By the end of June, 2005, 1,076 families and 3,826 people in the Mopanshan, Shanchahe and Sanrenban villages of Mopanshan reservoir area in Wuchang city have been moved, and 87 households or 232 persons in Shanhetun Forest Bureau, including 36 households or 116 persons in Xianfeng Forest Station and 51 households or 116 persons in Shanchahe Forest Station. They have been resettled in new places. Of the four affected villages, three (3) almost completed relocation and resettlement, about 96% of the total. For the other affected villages and forest stations, however, the moving has not started yet due to limited resources to organize and coordinate the relocation and resettlement, and the Resettlement Office of Wuchang city decided to implement the resettlement plan in stage.

The water treatment plant site had no houses or residents. Therefore there is no relocation and resettlement for this component. The water distribution network also does not involve house demolishment and relocation for the construction of the sections under ADB financing.

The above **Table 4.2-A** and **Table 4.2-B** show that relocation and resettlement among the forest stations just started, less than 13%. The Shanhetun Forest Bureau has planned to implement collective relocation and resettlement, new houses for the APs of the forest bureau were still under construction at the end of June, 2005. As a result, no one has been able to move in the new forest station housing yet. A few households who did move, as shown in **Table 6.3**, were those who moved out of the Forest Bureau and to their relatives and friends in Harbin or other cities in and out of the province or were relocated within the Shanhetun Forest Bureau.

House demolition up to date is summarized in **Table 4.7**. House demolition was mostly completed in Mopanshan, Shanchahe and Bei Sanrenban villages, while demolition has not started in Dagui villages despite some had moved by the end of the

2006. The Xianfeng Forest Station and Sanchahe Forest Station have started house demolishment, while the demolishment in Hansong Forest Station has not started yet. Most of the relocated families have chosen to move to their friends and relatives in Harbin and other cities or within the Shanhetun Forest Bureau. The forest bureau plans to do the demolition at the same time when the new housing development will be completed and all APs will move to their new houses.

In general, relocation and resettlement had progressed well for the reservoir inundated area and pipeline components. The actual progress was made with consideration of construction progress and readiness of the APs.

Associated with house demolishment, various house auxiliaries have also been demolished. **Table 4.8** provides the demolished house auxiliaries in Wuchang City and **Table 4.9** in Shanhetun Forest Bureau. Up to date, various house structures along the pipeline have been demolished, including 3,372 m² brick structure and 950.79 m² mud and brick structure.

However, due to the change of pipeline routing, insufficient accuracy of pipeline installation by the construction unit, it caused slight changes of house demolishment. In addition, the missing index of relocation, the house demolishment and relocation is still being undertaken. Within the Bid Section 1, 6, 7 and 8, structures, irrigation wells, trees, tombs and so on have been identified in April. In order to avoid any impacts on construction, the resettlement office and land acquisition office of HWSC, Wuchang Resettlement Office, Resettlement Supervision Company, Wuchang City State Land Administration Bureau, Construction Unit, the leaders of village and *tun*, and relocated APs have had site investigation. The scopes of the impacts have been confirmed based on the actual situation. The confirmed index includes: 51.97 m² mud and brick houses, 16 m² wood warehouse, 615.2 m wood fences, 73.3 m brick wall, 3 brick cow and horse pens, 3 brick pig and sheep pens, 5 brick chicken pens, 3 brick toilets, 3 wood toilets, 1 brick vegetable cellars, 1 household connection line, 1 telephone, 1 wood shed, 112 m² plastic shed, 1 hand pumped well, 25 electric wells, 48 trees with fruits, 49 trees, and 148 relocated tombs.

Table 4.7 House Demolition (m²)

Site	Planned (RAP)					Actual To-Date (Dec. 2004)					Actual To-Date (Jun. 2005)					
	Brick/ Concrete	Brick	Mud/ Brick	Mud/ Straw	Total	Brick/ Concrete	Brick	Mud/ Brick	Mud/ Straw	Total	Brick/ Concrete	Brick	Mud/ Brick	Mud/ Straw	Total	% of Progress
Wuchang (villages)																
Mopanshan	-	6,585	1,071	1,475	9,131	-	65	153	131	349	-	65	153	131	349	3.8%
Sanchahe	-	6,515	4,423	11,311	22,249	-	6,530	5,087	11,071	22,688	-	6,530	5,087	11,071	22,688	102%
Sanrenban	500	6,952	2,516	2,699	12,668	-	-	-	-	-	-	1,130.45	1,203.94	2,003.14	4,337.53	34%
Dagui	12	4,148	561	945	5,666	-	-	-	-	-	-	692.07	488.15	1,197.49	2,377.71	42%
Subtotal	512	24,199	8,571	16,431	49,714	-	6,595	5,240	11,202	23,037	-	1,822.52	1,692.09	3,200.63	6,715.24	13.5%
Forest Bureau (stations)																
Xianfeng	8,673	4,478	1,710	1,710	14,861	-	-	-	-	-	310	290	225	-	825	5.6%
Hansong	1,107	2,949	2,651	2,651	6,707	-	-	-	-	-	-	-	-	-	-	0%
Sanchahe	184	545	510	510	1,239	-	-	-	-	-	-	450	1,500	800	2,750	222%
Subtotal	9,964	7,972	4,871	4,871	22,807	-	-	-	-	-	310	740	1,725	800	3,575	15.7%
Pipeline	-	6,150	-	150	6,300	-	3,372	899	-	4,271	-	3,372	950.79	-	4,322.79	68.6%
Water plant	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Distribution Network	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 4.8 Housing Auxiliaries (Wuchang city)

Items	Unit	RAP/Government Approved Plan					Actual To-date (to Jun. 2005)					Progress in %
		Morpanshan	Sanchahe	Sanrenban	Dagui	Total	Morpanshan	Sanchahe	Sanrenban	Dagui	Total	
Mud & wood barns	m ²	631	5,114	1,757	602	8,103	59.81	4,546	1,171	817	6,594	81.4%
Brick barns	m ²	1,459	579	1,581	426	4,045	43.96	679	186	69	978	24.2%
Corn silos	no.	64	235	54	14	367	5	210	47	20	282	76.8%
Hand-pump wells	no.	122	401	205	65	793	7	412	83	37	539	68.0%
Brick fences	m	156	-	147	-	304	-	-	-	-	-	0%
Wood fences	m	14,880	46,866	19,629	9,645	91,020	293	50,443	9,432	7,644	67,812	74.5%
Brick animal house	no.	0	1	1	-	2	-	-	3	-	3	150%
Wood animal house	no.	56	261	118	51	485	5	205	54	42	306	63.1%
Brick pig & sheep house	no.	4	-	1	2	7	-	2	2	-	4	57.1%
Wood pig & sheep house	no.	65	212	124	34	435	-	264	54	32	350	80.5%
Chicken houses	no.	83	474	128	74	759	5	493	71	56	625	82.4%
Mud vegetable cellars	no.	14	15	7	9	45	3	140	17	23	183	406.7%
Brick vegetable cellars	no.	93	370	182	35	680	4	168	67	15	254	37.4%
Cement yard	m ²	103	48	114	4	269	-	64	-	-	64	23.7%
Telephone	no.	20	89	35	5	150	-	94	5	2	101	67.3%
Cable TV	hh	87	0	55	-	141	3	-	-	6	9	6.4%
Wood shed	no.	19	61	53	13	145	2	115	32	14	163	112.4%
plastic shed	m ²	0	-	8	2	10	-	843	1,080	166	2,089	20,885%
Warm shed	m ²	0	-	148	-	148	-	130	-	-	130	87.8%
Brick Toilet	no.	119	378	174	63	734	-	1	-	-	1	0.1%
Wood Toilet	no.	-	-	-	-	-	5	379	69	37	490	490%
Tomb	no.	0	392	137	-	529	-	389	175	40	604	114.2%

Table 4.9 Housing Auxiliaries (Shanhetun Forest Bureau)

Items	Unit	RAP/Government Approved RAP				Actual To-date (to June 2005)				Progress in %
		Xianfeng	Hansong	Sanchahe	Total	Xianfeng	Hansong	Sanchahe	Total	
Brick barn	m ²	206.0	53.0	-	259.0	300.0	-	200.0	500.0	193.0%
Mud & wood barn	m ²	4,673.0	2,257.0	443.0	7,373.0	120.0	-	804.0	924.0	13.0%
Subtotal	m²	4,879.0	2,310.0	443.0	7,632.0	-	-	-	-	0.0%
Corn silos	no.	108.0	44.0	23.0	175.0	10.0	-	40.0	50.0	29.0%
Hand-pump well	no.	213.0	78.0	19.0	310.0	15.0	-	4.0	19.0	6.0%
Wood fence	m	38,091.0	14,178.0	3,304.0	55,573.0	1,500.0	-	5,610.0	7,110.0	13.0%
Wood animal house	no.	80.0	39.0	24.0	143.0	4.0	-	6.0	10.0	7.0%
Brick livestock house	no.	159.0	-	13.0	172.0	-	-	0.0	0.0	0.0%
Poultry house	no.	351.0	141.0	30.0	522.0	30.0	-	110.0	140.0	27.0%
Brick veg. cellar	no.	252.0	146.0	21.0	419.0	10.0	-	24.0	34.0	8.0%
Mud veg. cellar	no.	252.0	146.0	20.0	418.0	5.0	-	6.0	11.0	3.0%
Wood veg. cellar	no.	-	-	1.0	1.0	-	-	-	-	0.0%
Cement yard	m ²	26.8	-	-	26.8	-	-	-	-	0.0%
Telephone	no.	84.0	48.0	8.0	140.0	15.0	-	30.0	45.0	32.0%
Cable TV	hh	25.0	77.0	-	102.0	12.0	-	-	12.0	12.0%
Shed	no.	-	68.0	-	243.0	15.0	-	49.0	64.0	26.0%
Toilet	no	249.0	107.0	24.0	384.0	15.0	-	51.0	66.0	17.0%
Tomb	no	221.0	109.0	28.0	358.0	6.0	-	55.0	61.0	17.0%

4.5 Public Properties

The inundation by the reservoir will involve loss of some public properties in the affected areas of Wuchang City and Shanhetun Forest Bureau. The loss of public properties include office building, school buildings, village roads, bridges, tunnels, transmission and telecommunication lines, hydro facilities, and so on. **Table 4.10** and **Table 4.11** provide the comparison of impacts and progress for the loss of public properties between the RAP and actually involved in Wuchang City and Shanhetun Forest Bureau, respectively.

Table 4.10 Impacts and Progress of Public Properties in Wuchang City

Items	Unit	RAP/Government Approved Plan					Actual To-date (to Jun. 2005)					Progress in %
		Morpanshan	Sanchahe	Sanrenban	Dagui	Total	Morpanshan	Sanchahe	Sanrenban	Dagui	Total	
House												
Office (two floors)	m ²	-	-	-	-	-	-	-	-	-	-	-
Office (brick & tile)	m ²	180.11	-	-	-	180.11	-	-	-	-	-	0.0%
Office (brick)	m ²	-	40.89	-	-	40.89	-	177.1	-	-	177.1	433.1%
Clinic (brick & tile)	m ²	-	-	-	-	-	-	-	-	-	-	-
School (brick& tile)	m ²	613.14	-	-	-	613.14	-	615.73	-	-	615.73	100.4%
Shop (brick & tile)	m ²	-	-	-	-	-	-	-	-	-	-	-
Room of electric pumped well	m ²	-	-	-	-	-	-	-	39.69	-	39.69	100%
Subtotal		793.25	40.89	-	-	834.14	-	792.83	39.69	-	932.52	111.8%
Infrastructure												
Village road (sand & stone)	km	21.50	4.00	2.00	13.60	41.10	-	9.50	2.45	0.74	12.69	30.9%
Street road (sand & stone)	km	-	10.00	5.00	-	15.00	-	9.13	2.90	1.97	14.00	93.3%
Cement road (concrete)	m ²	-	-	-	-	-	-	-	-	-	-	-
Bridge (mud & wood)	no.	13.00	3.00	7.00	6.00	29.00	-	20.00	-	13.00	33.00	113.8%
Tunnel (cement pipe)	no.	20.00	-	7.00	-	27.00	-	19.00	-	9.00	28.00	103.7%
Suspension bridge (mud & wood)	no.	-	-	-	1.00	1.00	-	-	-	-	-	0.0%
School road	km	-	-	-	-	-	-	0.13	-	-	0.13	100.0%
Tun-level road	km	-	-	-	-	-	-	5.60	-	0.89	6.49	100.0%
Transmission and Telecommunication Lines												
High voltage (380v)	km	10.50	3.00	5.00	-	18.50	-	4.72	1.50	-	6.22	33.6%
Low voltage (220v)	km	46.00	-	-	-	46.00	-	27.75	2.99	1.70	32.44	70.5%
Telecommunication line	km	11.28	7.00	-	-	18.28	-	-	-	-	-	0.0%
Fiber Optical Cable	km	-	2.00	-	-	2.00	-	-	-	-	-	0.0%
Transformer (30kVA)	no.	2.00	-	-	-	2.00	-	2.00	-	-	2.00	100.0%
Transformer (50kVA)	no.	1.00	-	-	-	1.00	-	1.00	1.00	1.00	3.00	300.0%
Power Post	no.	-	-	-	-	-	-	439.00	121.00	-	56-	100.0%
Platform of transformer	no.	-	-	-	-	-	-	3.00	-	-	3.00	100.0%
Basic Hydro Facilities												
River bank (mud)	km	3.00	4.00	-	0.78	7.78	-	3.00	1.00	-	4.00	51.4%
Weir (stone)	no.	1.00	-	-	1.00	2.00	-	-	-	-	-	0.0%

Items	Unit	RAP/Government Approved Plan					Actual To-date (to Jun. 2005)					Progress in %
		Morpanshan	Sanchahe	Sanrenban	Dagui	Total	Morpanshan	Sanchahe	Sanrenban	Dagui	Total	
Irrigation canal	km	25.00	7.00	6.00	3.30	41.30	-	-	-	-	-	0.0%
Small Water Gate (Cement)	no.	2.00	-	-	-	2.00	-	2.00	-	-	2.00	100.0%
Drainage Canal	km	-	2.00	-	2.70	4.70	-	-	-	3.8	3.80	80.9%
Water Pond	mu	-	7.00	5.00	5.00	17.00	-	-	-	-	-	0.0%
Platform	no.	1.00	-	-	-	1.00	-	-	-	-	-	0.0%
Flood prevention culvert	m	-	-	-	-	-	-	21.60	2.02	0.7	30.62	100.0%
Pressure tank of electric well	set	-	-	-	-	-	-	-	1.00	-	1.00	100.0%
Others												
Bicycle shed (wood)	no.	3.00	-	-	-	3.00	-	2.00	-	-	2.00	66.7%
Military road	m ²	234.00	-	-	-	234.00	-	-	-	-	-	0.0%
Flower Pond (brick)	no.	1.00	-	-	-	1.00	-	4.00	-	-	4.00	400.0%
Flower Pond (steel)	no.	3.00	-	-	-	3.00	-	-	-	-	-	0.0%
Toilet (brick)	m ²	19.04	-	-	-	19.04	-	19.72	-	-	19.72	103.6%
Fence (wood)	m	280.00	-	-	-	280.00	-	357.00	-	-	357.00	127.5%
Well	no	1.00	-	-	-	1.00	-	23.00	-	-	23.00	2,300%
Brick Factory	no	1.00	-	-	-	1.00	-	-	-	-	-	0.0%
Water Supply Pipe, Pressure Tank & Well	no	-	1.00	-	-	1.00	-	-	-	-	-	0.0%
Wood toilet, art gallery, leading exercise platform	No.	-	-	-	-	-	-	4.00	-	-	4.00	100.0%
Telephone		-	-	-	-	-	-	1.00	-	-	1.00	100.0%
Tun sign		-	-	-	-	-	-	5.00	2	1	8.00	100.0%

Table 4.11 Impacts and Progress of Public Buildings in Shanhetun Forest Bureau (m²)

Item	Type of Structure	RAP/Government Approved RAP			Actual To-date (Dec.2004)			Progress Made (%)
		Xianfeng	Hansong	Total	Xianfeng	Hansong	Total	
Buildings								
Office	Brick tile	420	518	938	-	-	210	0.0%
Clinic	Brick tile	210	-	210	210	-	-	100.0%
School building	Brick tile	680	360	1,040	-	-	1,160	0.0%
Shop	Brick tile	200	150	350	1,160	-	-	331.0%
Canteen	Brick tile	210	238	448	-	-	-	0.0%
Worker's club	Brick tile	420	400	820	-	-	-	0.0%
Nursery office	Brick tile	210	-	210	-	-	-	0.0%
Inspection station	Brick tile	40	56	96	-	-	-	0.0%
Dormitory	Brick tile	-	461	461	-	-	-	0.0%
Electricity dispatch center	Brick tile	310	30	340	-	-	-	0.0%
Safety center	Brick tile	300	-	300	-	-	-	0.0%
Office of pumping station	Brick tile	204	-	204	3	-	3	1.5%
Subtotal	Brick tile	3,204	2,213	5,417	-	-	-	0.0%
Warehouses								
Oil warehouse	Brick tile	45	55	100	320	-	320	320.0%
Garage	Brick tile	340	128	468	45	-	45	9.6%
Grain warehouse	Brick tile	231	267	498	-	-	-	0.0%
Merchandise warehouse	Brick tile	120	396	516	120	-	120	23.3%
Nursery garden	Brick tile	200	-	200	40	-	40	20.0%
Seedling room	Brick tile	200	-	200	600	-	600	300.0%
Tree nursery cellar	Brick tile	200	400	600	600	-	600	100.0%
Pump room	Brick tile	60	-	60	5	-	5	8.3%
Material warehouse	Brick tile	200	-	200	356	-	356	178.0%
Medical warehouse	Brick tile	15	-	15	-	-	-	0.0%
Gunpower warehouse	Brick tile	4,425	31	4,456	-	-	-	0.0%
Subtotal	Brick tile	6,036	1,277	7,313	-	-	-	0.0%
TOTAL	Brick tile	9,240	3,490	12,730	-	-	-	0.0%

4.6 Loss of Trees

In the reservoir inundation area, it will involve the loss of some tree in Wuchang City and Shanhetun Forest Bureau. The tree loss and progress made between the RAP and actually involved in the reservoir inundated area of Wuchang City and Shanhetun Forest Bureau is presented in **Table 4.12** and **Table 4.13**, respectively.

In the RAP, no statistical survey data has been made for the water pipeline construction for the tree loss. During the construction implementation, tree cutting has been actually involved in the sections of the water pipelines. **Table 4.14** provides the loss of trees due to the water pipeline construction.

Table 4.12 Loss of Trees in the Reservoir Inundated Area of Wuchang City

Trees	Unit	RAP/Government Approved Plan					Actual To-date (to Jun. 2005)					Progress (%)
		Mopanshan	Sanchahe	Sanrenban	Dagui	Total	Mopanshan	Sanchahe	Sanrenban	Dagui	Total	
Grape trees	no.	50	243	177	38	509	-	407	90	21	518	101.8%
Grape trees without fruits	no.	2,269	1,839	888	288	5,285	-	20	2	-	22	0.4%
Fruit trees	no.	-	-	-	-	-	3	1,640	339	166	2,148	100.0%
Trees without fruits	no.	200	254	80	18	551	3	381	86	14	484	87.8%
Broadleaf	no.	161	599	931	184	1,875	-	551	133	297	981	52.3%
Conifer	no.	3,662	3,796	3,354	38	10,850	-	706	107	-	813	7.5%
Nursery trees	no.	409	23	885	-	1,317	-	42	86	-	128	9.7%
Tendrill-leaved fritillary bulb	m ²	461	7,233	7,363	645	15,702	-	-	-	-	-	0.0%

Table 4.13 Loss of Trees in the Reservoir Inundated Area of Shanhetun Forest Bureau

Trees	Unit	RAP/Government Approved RAP				Actual To-date (Jun. 2005)				Progress (%)
		Xianfeng	Hansong	Sanchahe	Total	Xianfeng	Hansong	Sanchahe	Total	
Grape trees	no.	3,406	61	12	3,479	3,480	-	32	3,512	101.1%
Grape trees without fruits	no.	2,150	1,021	162	3,333	96	-	-	96	2.9%
Fruit trees	no.	749	72	-	821	160	-	24	184	22.4%
Trees without fruits	no.	711	155	92	958	-	-	-	-	0.0%
Broadleaf	no.	348	260	64	672	47	-	19	66	9.8%
Conifer	no.	1,336	-	-	1,336	246	-	24	270	20.2%
Nursery tree	no.	-	3,000	-	3,000	-	-	-	-	0.0%
Tendrill-leaved fritillary bulb	no.	-	12	-	12	-	-	-	-	0.0%
Tendrill-leaved fritillary bulb	m ²	14,645	11,836	184	26,665	-	-	-	-	0.0%

Table 4.14 Lost of Trees Due to the Water Pipeline Construction

Item	Lost of Trees (No.)				
	TOTAL	Man-Made Coniferous	Man-made Broad-Leaves	Natural Broad-Leaves	Economic Trees
Shahezi Township	7,114	2,374	4,740	-	-
Xiangyang Township	30,823	8,103	1,775	20,815	130
Dujia Township	28,067	11,655	2,352	12,564	1,496
Niujia Township	844	-	814	-	30
Beiyinhe Township	8,173	6,466	1,328	26	353
Anjia Township	25,162	10,774	7,901	446	6,011
Wuchang Township	15,235	-	14,421	15	799
Lalin Township	7,396	1,565	4,481	-	1,350
Beiyinhe Forest Station	7,228	7,228	-	-	-
Baoshan Forest Station	6,717	6,117	-	600	-
Total	136,759	54,282	37,812	34,466	10,199

4.7 Basic Infrastructures and Special Facilities

During this monitoring period, the major progress made for basic infrastructures and special facilities in Wuchang is the installation of fibre cable from the reservoir area to Harbin City, which will be used for the reservoir water volume monitoring, automatic control system of computer control. The installation of fibre cable started in the beginning of this year, no relocation has been involved, and it has been installed at the same time as the water supply pipeline construction. During the construction, the resettlement office in association with water pipeline office of HWSC and fibre cable construction unit have made necessary compensation.

Up to date, the construction of transmission line has been fully completed. The construction of road is been undertaking. Currently 258.4 km or 80% of road has been constructed.

Table 4.15 provides the scope of impacts of basic infrastructure and special facilities between the RAP and actually involved.

Table 4.15 Basic Infrastructure and Special Facilities

No	Type	Unit	Structure	RAP/Government Approved			Actual To-date (Jun. 2005)			Progress (%)
				Xianfeng	Hansong	Total	Xianfeng	Hansong	Total	
1. Road, Bridge and Tunnel										
1	Road	km	sand & stone	9.00	-	9.00	-	-	-	0.0%
2	Site Road	km	sand & stone	15.70	4.00	19.70	9.85	-	9.85	50.0%
3	Nursery Road	km	sand & stone	5.30	-	5.30	2.65	-	2.65	50.0%
4	Street Road	km	sand & stone	3.40	2.50	5.90	2.95	-	2.95	50.0%
5	Cement Road	m ²	Concrete	500.00	406.00	906.00	453.00	-	453.00	50.0%
6	Bridge	no./m	mud & wood	30.00	-	1.00/30.00	-	-	-	0.0%
2. Transmission and Telecommunication Lines										
1	High Voltage Line	km		14.00	5.00	19.00	-	-	-	0.0%
2	Low Voltage Line	km		8.00	3.00	11.00	-	-	-	0.0%
3	Transformer	no.	50 kva.	-	1.00	1.00	-	-	-	0.0%
4	Transformer	no.	100 kva	1.00	-	1.00	-	-	-	0.0%
5	Transformer	no.	160 kva	-	-	-	-	-	-	0.0%
6	Electricity Pole	no.	Wood pole	286.00	-	286.00	-	-	-	0.0%
7	Electricity Pole	no.	Cement	35.00	-	35.00	-	-	0.00	0.0%
3. Broadcasting and TV										
1	TV Tower	no.	Steel	1.00	1.00	2.00	1.00	-	1.00	50.0%
2	TV Antenna	no.	Aluminum	1.00	-	-	3.00	-	3.00	300.0%
3	Cable TV	HH		-	4.00	4.00	2.00	-	2.00	50.0%
4	Broadcasting Tower	no.	Steel	1.00	-	1.00	2.00	-	2.00	200.0%
4. Drainage and Hydro Facilities										
1	Water Tower	no./ m ²	Brick & concrete	1.00/70.30	-	1.00/70.30	-	-	-	0.0%
2	Pipeline	Liner m	Concrete	1,200.00	-	1,200.00	-	-	-	0.0%
3	Pipline	Liner m	Cast steel	2,200.00	-	2,200.00	-	-	-	0.0%
4	Small hydro-gate	no.	Concrete	-	5.00	-	-	-	-	0.0%
5	Well	no.	Hand-pump	4.00	-	9.00	-	-	-	0.0%
6	Irrigation Canal	Liner m	Stone	1,200.00	-	1,200.00	-	-	-	0.0%
5. Others										
1.	Flower Pond	m ²	Brick	4.00	-	4.00	-	-	-	0.0%

No	Type	Unit	Structure	RAP/Government Approved			Actual To-date (Jun. 2005)			Progress (%)
				Xianfeng	Hansong	Total	Xianfeng	Hansong	Total	
4	Fence	m	Steel	307.00	20.00	327.00	-	-	-	0.0%
5	Fence	m	Wood	60.00	-	60.00	-	-	-	0.0%
6	Fenced wall	m	Brick	-	1,200.00	2,580.00 ^a	-	-	-	0.0%
7	Storage Tunnel	no/m ²	Brick	1.00/21.00	-	-	-	-	-	0.0%
8	Bulletin Board	no.	Steel	11.00	5.00	16.00	-	-	-	0.0%
9	Bulletin Board	no.	Brick & stone	-	2.00	2.00	-	-	-	0.0%
10	Sport Equipment	Pair	Steel	8.00	7.00	15.00	-	-	-	0.0%
11	Telephone	no.		4.00	5.00	9.00	-	-	-	0.0%
12	Brick & Bamboo Wall	m	Brick	-	-	-	-	-	-	0.0%
13	Green Bamboo	m ²		560.00	200.00	760.00	-	-	-	0.0%
14	Water Pond	m ²	Mud	600.00	-	600.00	-	-	-	0.0%
15	Shadow Pavilion	no.	Brick	-	1.00	1.00	-	-	-	0.0%
16	Building Sign	no.	Ceramic	-	-	-	-	-	-	0.0%
17	Toilet	m ²	Brick	1.00	1.00	2.00	-	-	-	0.0%
18	Toilet	no.	Mud & wood	165.00	107.00	272.00	-	-	-	0.0%
19	Fish Pond		Mud	-	3,200.00	3,200.00	-	-	-	0.0%
20	Fire Tower	no.	Steel	1.00	-	1.00	1.00	-	1.00	100.0%
21	Sports Ground	m ²	Sand & stone	8,000.00	3,000.00	11,000.00	6,372.00	-	6,372.00	58.0%
6. Regular trees										
1	Broadleaf	no.		875.00	70.00	945.00	-	-	-	0.0%
2	Conifer	no.		-	319.00	319.00	-	-	-	0.0%
7. Land										
6	Home Yard	mu		466.00	223.00	689.00	-	-	-	0.0%
7	Herb Land	mu		620.00	380.00	1,000.00	-	-	-	0.0%
8	Homestead	mu		203.70	97.60	301.30	-	-	-0	0.0%
Subtotal				1,289.70	700.60	2,451.00 ^b	-	-	-	0.0%

Note: ^a include 1,580 m in Shanchahe Station. ^b include 460.7 mu in Shanchahe Station.

5. Compensation

5.1 Principles of Compensation

The principles of compensation and entitlements in the Project included in the Project RAP are as follows:

- (i) Land acquisition and involuntary resettlement should be avoided or minimized where feasible by developing and comparing a series of design alternatives;
- (ii) Compensation and entitlements provided must be adequate to allow APs to at least maintain their pre-project standard of living, with the prospect of improvement;
- (iii) Land temporarily occupied and the period of disruption are to be kept to a minimum;
- (iv) All the APs, whether with legal or illegal title, will be taken into consideration and compensated;
- (v) The per-capita land holding after land acquisition will be sufficient to maintain the previous livelihood standard;
- (vi) Where land allocation per capita is not sufficient to maintain previous livelihood standards, other income generating activities will be provided for;
- (vii) A preferential policy will be provided to vulnerable groups, including national minorities, in such things as compensation, housing assignment, transfer, and employment;
- (viii) All the APs will be adequately informed about eligibility, compensation rates and standards, livelihood and income restoration plans, and project timing; and,
- (ix) There will be close internal and external monitoring. Timely actions will be carried out to identify and resolve any problems.

Discussions with the Project EA and resettlement offices, as well as review of the compensation standards actually applied in the Project land acquisition and resettlement practices, show that the above principles have been fully adopted and well followed in the Project implementation. The discussions and interviews with officers from the EA, resettlement implementing agencies, Resettlement Offices of different levels show that they are well aware of these compensation principles and will follow these principles in their respective work concerning land acquisition and resettlement for the Project.

5.2 Compensation Rates

During the resettlement implementation, various compensation rates are used in the Project resettlement and relocation practices. These rates are compared with those proposed in the RAP which had been reviewed and cleared/approved by both the ADB and government during Project preparation and appraisal. This section presents the comparison of the planned versus actual compensation rates. Differences between the planned and applied rates, where exist, are identified and analyzed on the causes of differences and impacts to the APs.

5.2.1 Compensation rates for permanent agricultural land acquisition

According to the RAP of the Project, the compensation for the permanent acquisition of agricultural land includes: land compensation and land relocation allowance. The land compensation for the Project is six times the average Annual Agricultural Output Value (AAOV), the relocation allowance is four times the AAOV. Combining both items the rate is equal to 10 times the AAOV. During the Project implementation, the actual compensation rates adopted and used for the permanent agricultural land acquisition were 13 times the AAOV, which are 30% greater than the planned rates in the RAP. The new and better rates were adopted following a recent policy initiative of the government announced after the RAP of the Project had been approved. The new rate was developed considering impacts to, and the need for rehabilitation of, farmers affected by the land acquisition and resettlement. More specifically, the new multiplier increases the land compensation from 6 to 7 and the relocation allowance or subsidy from 4 to 6 or a 50% increase, to better help the affected people to acquire new land for income and livelihood restoration (**Table 5.1**). Although the new rate or multiplier was initiated after the RAP of the Project had been approved, the EA and IAs promptly adopted the new rates for the best interest of the APs and as an effort to minimize the impact.

In actual land acquisition work, more types of agricultural land than those identified in the RAP were found. Simply using the limited types of land contained in the RAP cannot reflect the reality and fairness for compensation. In particular, vegetable land including those in greenhouses, have much higher yields or AAOV than grains on dry or paddy lands, while compensation rates for vegetable lands were not included in the RAP. The Project EA and IAs have therefore adopted AAOV for four types of vegetable lands which are scattered in the Project area, based on the actual output values of these lands from the previous years (**Table 5.1**). Based on the available information, these rates better can be said to reflect the actual values of the land as well as the cost to acquire and develop new vegetable land to mitigate and compensate the impacts from the lost vegetable lands. The compensation rates for vegetable lands including greenhouses to fill in the gaps in the originally approved RAP and well supported the compensation work.

Table 5.1 Compensation Standards of Agriculture land

Type of Land	Proposed by RAP			Actually Applied			Difference
	AAOV (RMB/mu)	Land Compensation + Resettlement Subsidy	Compensation Rate (RMB/mu)	AAOV (RMB/mu)	Land Compensation + Resettlement Subsidy	Compensation Rate (RMB/mu)	
Dry land	520	6 + 4	5,200	520	7 + 6	6,760	1,560
Paddy land	787	6 + 4	7,870	787	7 + 6	10,231	2,361
Orchard	1,600	6 + 3	14,400	1,600	6 + 3	14,400	0
Vegetable land	-	-	-	2,533	7 + 6	32,929	-
Plastic greenhouse	-	-	-	8,333	7 + 6	108,329	-
Heated greenhouse	-	-	-	11,332	7 + 6	147,316	-
Energy efficient greenhouse	-	-	-	13,332	7 + 6	173,316	-
Natural pasture land	-	-	-	100	6 + 0	600	-
Planted pasture land	-	-	-	133	6 + 0	798	-
Fish pond	2,333	3 + 3	14,000	2,333	6 + 0	14,000	0
Un-used land	520	2 + 0	1,040	520	2 + 0	1,040	0
Homestead	520	4 + 0	2,080	520	4 + 0	2,080	0

Wuchang city has different plan for resettlement subsidy disbursement from that proposed in the Project RAP. The original RAP planned to pay resettlement subsidy based on the land (see **Table 5.1** above). This is the same way with which the total amount of resettlement subsidy was calculated by the city's resettlement office. However, the resettlement office considered the cost for resettlement is mostly related to the number of people involved in the resettlement while the amount of agriculture land they own may not always well reflect the actual monetary need for resettlement. With this consideration, the resettlement office divided the total resettlement subsidy by the total number of people involved in the Project relocation and resettlement (based on the registered population or "Hukou" in the Project affected area at the time of relocation). The result was used as the unit for resettlement subsidy per capita. The actual resettlement subsidy payment to a particular family is determined by multiply this unit subsidy by the number of people in the family. The actual subsidy, as calculated by the above formula, is RMB 26,433.4 per capita, which has been used in the resettlement subsidy payment.

Each of the payment methods may have its merits and drawbacks. For a family of five who owns 15 paddy fields, for example, would receive resettlement subsidy of RMB 70,830, under the land based subsidy method but RMB 132,167, and a family of two who has the same amount of land would receive only RMB 52,866.8 based on the subsidy method by calculating the number of the household persons. As the resettlement is intended to help the APs to resettle in a new area, the calculating method for compensation payment based on the number of people seems to be more fair and reasonable to the APs.

As the project affected area has abundant deserted land (marsh, wild grass land, sterile land, etc.) and some farmers have cultivated this type of land on their own and converted them into either paddy or dry agriculture land. These lands are not assigned to the farmers by the State, as under the "30 years responsibility scheme" and thus not protected for the guaranteed right to farm for 30 years. Nevertheless the general compensation is still 13 times of AAOV for these lands despite the lands are not under the management of the state or rural collectives¹. The compensation and disbursement, however, is divided into two portions: first, a direct land compensation of RMB 3/m² for paddy field and RMB 2/m² for dry land will be paid to farmers who have made the investment into the land for cultivation. This is equivalent to RMB 2,000/mu for paddy field and RMB 1,333/mu for dry land, in comparison with RMB 10,231/mu for paddy field and RMB 6,760/mu for dry land (see **Table 5.1** above) with 13 times AAOV. The compensation is not meant for acquiring similar agricultural lands elsewhere but compensation to exploration or cultivation of deserted land elsewhere. If chosen to explore new deserted land, the money is sufficient for fertilizers, machines, labor, etc. according to limited interviews with the knowledgeable local people.

Second, the balance of the 13 times AAOV, i.e., RMB 8,233/mu for paddy field and RMB 5,428/mu for dry land will be pooled together and paid to all people in the village eligible for relocation and resettlement compensation. This pooled money will be divided by the number of people in a village group and then disbursed to all families based on the number of members in the families as "unified land

¹ These lands are also called illegally developed land.

compensation". As each village group may have different extra land and different number of eligible people, the unified land compensation differs from village group to village group. The principle is everyone benefits from this extra cultivated land, although those who actually cultivated will be compensated for the cost, in addition to the unified compensation. As most, if not all families have more or less extra cultivated land and it is likely that families with more members tend to have more extra land, and thus would receive more unified land compensation, this disbursement method appears to be fair.

5.2.2 Compensation rates for forest land

Woodland or forest land is the primary resources for the people working and living in the Shanhetun Forest Bureau. The Project construction, particularly the Mopanshan reservoir would permanently acquire forest land and inundate some 21,525 trees in the area of the forest bureau. Compensation for the lost forest land is a major mitigation measure of the impacts to the APs in the forest bureau.

The compensation for forest land acquired include: i) the acquired forest land; ii) lost of trees; iii) relocation allowance; and iv) forest re-vegetation. As shown in **Table 5.2**, compensation rates were proposed in the RAP during project preparation. However, in practice, the original woodland categorization was found not easy to execute and as a result a new categorization was developed in the actual application. **Table 5.2** shows the categorization of forest land and their respective compensation rates. Although the categories of woodland or forest land in RAP and actual practice are not identical and thus cannot be compared directly, those used in actual practice are generally higher than those proposed in the RAP. In addition, the actual resettlement also included compensation for reforestation at RMB 350/mu and a resettlement subsidy at RMB 3,000/mu for those who lost their forest or woodland to the Project.

Table 5.2 Forest Land Compensation Standards (Forest Bureau)

RAP		Actual	
Type of Forest Land	RMB/mu	Type of Forest Land	RMB/mu
Timber forest	500	General woodland	534.57
Protection forest land	650	Forest for timber land	698.59
Economic forest	900	Reforestation	350
Other forest Land	250	Resettlement subsidy	3,000

For individual trees lost to land acquisition throughout the project area, the compensation rates are presented in **Table 5.3**, based on the nature and sizes/maturity of the trees removed. As shown in this table, the actual compensation rates for trees of all sizes are identical to those proposed in the RAP. There is no difference for the tree compensation rates between the originally planned versus the actually applied in the resettlement work.

Table 5.3 Compensation Standards of Detailed Timber

Type of Trees	Diameter (cm)	Rate of Compensation (RMB/tree)		
		RAP	Actual	Difference
Coniferous Trees	< 4.9	6.0	6.0	0
	5-9.9	10.0	10.0	0
	10-14.9	17.0	17.0	0
	> 15	32.0	32.0	0
	Young	1.39	1.39	0
Broad-Leaves Tree	< 4.9	4.5	4.5	0
	5-9.9	7.0	7.0	0
	10-14.9	12.0	12.0	0
	> 15	20.0	20.0	0
	Young	0.42	0.42	0

5.2.3 Compensation rates for temporary land occupation

The construction of the Project will require the temporary occupation of cultivated land and non-cultivated land. As planned in the Project RAP, the compensation of temporary land occupation would include only for the income lost for the period when the land is occupied for Project construction. As most of the temporary land would be occupied for two years, the compensation rates for temporary land occupation are 2 times the AAOV, for different agricultural lands, plus a land recovery subsidy equivalent to 1 time the AAOV relative to the crops cultivated in the affected plot. The cost of land restoration to its original state is Y550/mu and is included in the compensation. The AAOV used for calculating compensation rates for temporary agricultural lands are identical to those for permanent land acquisition, shown in **Table 5.1**. At the above mentioned multipliers, the rates for temporary agricultural land occupation are as follows (**Table 5.4**):

Table 5.4 Compensation Rates for Temporary Land Occupation (Wuchang)

Type of Land	Proposed by RAP (RMB/mu)	Actually Applied (RMB/mu)*	Difference
Dry land	1,040	1,560	520
Paddy land	1,574		
Vegetable land	5,066	7,600	2,534
Greenhouse land	16,666		
Bush land	500		
Grass land	200		
Orchard land		4,000	
Other agriculture land		1,560	
Construction land		1,560	
Un-used land		1,560	
Aquatic surface		700	

Note: *In total, three (3) times the AAOV is applied in the actual compensation for temporary land occupation.

All project contractors have been requested, as their contractual obligations, to return the temporarily occupied land to its original condition as soon as the construction is

completed. The temporary land occupation shall in general not be over a two year period. The affected persons are paid cash compensation to ensure that their standards of living are maintained. As at the time of this monitoring period, most of the construction activities have already been completed, the temporarily used land is under restoration. Based on the field investigation, the land temporarily used had been properly restored by the contractors. However, the monitoring activities should be continued until all temporary land use has been fully restored to minimize or avoid the impacts to local communities.

5.2.4 Compensation rates for housing

The residential houses and other buildings and structures lost to the Project are to be directly and fully compensated to all APs, irrespective of their legal status according to the RAP. This is the same principle followed by the EA and IAs during the resettlement work. Residential land are compensated in terms of "land for land" arrangements with selected replacement plots within the village estate, while the houses are to be compensated to the extent similar to or better than the houses demolished by the Project and can be built or bought as may be appropriate to achieve the objective of minimizing the resettlement impacts.

For the impacts of building demolition, different types of structures had been measured and considered with different compensation rates in each village or forest station. The compensation has been directly paid to the affected households, so that they could use the compensation to build new houses. The general principle of determining the compensation rates for houses is the full replacement cost, i.e., the cost of materials plus labor for constructing a similar house.

Table 5.5 shows the compensation rates for houses applied during the Project resettlement work, in comparison with the RAP planned rates. The actual compensation rates for house demolition are the same with those planned in RAP, although the actual applications encompass a range. The ranges are applied due to the fact that the houses within each category are not completely identical in structures. For example, brick-concrete houses may involve house with concrete walls at different heights, with the balance of the walls as bricks. As a result of these fine differences in structures, the re-construction costs would differ. The range is applied in actual resettlement work to better reflect the fine difference in structures and to ensure the demolished houses can be built completely to their original standards. The follow up meetings and reviews with the APs indicate that the compensation could enable the APs to construct or purchase houses which are generally same in sizes, functions and standards as their original houses demolished for the Project construction.

In practice, the building structures were determined through detailed site survey by a team of resettlement officers from the city/forest bureau, township/forest station resettlement offices as well as village heads. Professional staff from the third party resettlement supervision company engaged by the EA also participated in the site investigation in determining the housing structure and compensation rates. Discussion and consultation were held with the house owners on the findings and observations of the survey. The final determination, which serve as the basis for the compensation rates were made based on full agreement between the resettlement officers and house

owners. Housing determination, and thus the applied compensation rates, would be held and further consultation with the house owners would continue until all involved reached an agreement.

Table 5.5 Compensation Rates for House Demolishment

Structure of Houses	RAP Compensation (RMB/m ²)	Actual Compensation (RMB/m ²)
Public office building	504	504
Club/theater houses	-	800
Private brick-concrete	410	370-538 with median: 410
Brick	410	252-470 with median: 410
Mud and brick	304	165-385 with median 304
Mud and straw	265	135-381 with median: 265
Brick barns	100	100
Mud barns	60	60

Different from the practice of Wuchang City, the Shanhetun Forest Bureau arranged collective relocation and resettlement. Unified new houses are being built in relocated areas and all APs will be relocated to these new houses, unless they choose to move out of the forest stations to their relatives and friends in Harbin and other areas or to move within the forest bureau. The new houses are built with the standards of about 13.2 m², which is slightly higher than the current average housing area. APs do have the choice to ask for bigger houses, e.g., some may ask for two houses combined together, but they would have to pay with their own money such as resettlement subsidy fund.

For those who choose to move away, officers from the RO of the Forest Bureau will visit all the new houses in which the APs move to and pay directly the cost of housing at the same standards as they would be entitled if they were to stay in the forest bureau. The direct payment approach is adopted to ensure those who move out the forest stations will have houses and to avoid the fund being mis-used for other purposes in stead of housing. All APs have their free wills as to whether to stay in the forest stations or move out to the places where their friends or relatives live.

The basic characteristic of this resettlement scheme is average. By its very nature, average could benefit more to those who are currently below average than those who are currently above the average.

5.2.5 Compensation rate for attachments and other structures

Compensation rates for housing attachments and other private or public structures, such as wells and toilets, also developed and included in accordance with related laws and regulations in the RAP and applied in the actual resettlement work. **Table 5.6** presents the compensation rates for these attachments and structures, including rates for both actual applied and originally planned in RAP.

The table clearly shows the actually applied compensation rates are identical to the originally proposed rates, which were included in the RAP, except brick toilet and

cable TV installation. A brick toilet in the project would cost approximately RMB 500 while the original proposed RMB 100 would not be able to do the reconstruction. The costs for cable TV installation are different in the forest bureau and in the rural area. That is simply a matter of fact. The originally proposed average across the board cost of RMB 350, while more than sufficient to install a cable TV in a rural household, won't be sufficient to do so for a forest bureau household. Therefore, both rates have been adjusted in actual application to reflect the real costs.

During the actual resettlement work, the EA and IAs found that the types of originally proposed compensation rates are not enough to cover the actual types of housing attachments and other structures. The compensation rates for the new items were determined during the actual resettlement work based on the same principle with which the compensation rates in the RAP were developed, i.e. the compensation is based on the replacement cost and compensation which would be sufficient to enable the affected owners of the structures to reconstruct the lost structures with the same standards as the ones they lost to the Project.

Table 5.6 Compensation Rates for Auxiliary Structures

Items	Unit	Proposed by RAP	Actually Applied	Difference
Corn barns	RMB/m ²	-	200	
Hand-pump wells	RMB/well	500	500	0
Large diameter wells	RMB/well	-	3000	
Power wells	RMB/well	800	800	0
Wood property wall/fence	RMB/m	-	10	
Wood pigsty	RMB/unit	80	80	0
Wood horse shed	RMB/unit	-	100	
Brick horse shed	RMB/unit	-	400	
Wood pigsty	RMB/unit	80	80	0
Brick pigsty	RMB/unit	-	200	
Wood chicken/duck shed	RMB/unit	30	30	0
Brick chicken/duck shed	RMB/unit	-	150	
Brick cellar	RMB/unit	260	260	0
Mud cellar	RMB/unit	180	180	0
Concrete yard	RMB/m ²	-	30	
Wood shed	RMB/unit	-	100	
Plastic greenhouse	RMB/m ²	-	12.5	
Heated green house	RMB/m ²	-	100	
Wood toilet	RMB/unit	30	30	
Brick and wood toilet	RMB/unit	100	500	400
Installation of cable TV	RMB/HH	350	500 (forest house) 300 (rural house)	
Power installation	RMB/HH	-	290 (forest house) 133.7 (rural house)	
Telephone line installation	RMB/HH	-	300 (forest house) 110 (rural house)	
Tomb relocation	RMB/unit	40	-	

5.2.6 Compensation rates for public utilities and infrastructure

Table 5.7 presents the actually applied compensation rates for various public utilities and infrastructure damage, removed or otherwise lost to the Project construction. For comparison, compensation rates proposed in the RAP during Project preparation are also presented in the same table. The table shows the actually applied rates are identical to those proposed. The compensation rate of road, not included in the original RAP, has been developed, as RMB 280,000 per km and applied in the actual resettlement work for the Project.

Table 5.7 Public Utilities and Infrastructure

Item	Unit	Compensation rates		Difference
		RAP	Actual	
Water supply tower	RMB/unit	80,000	80,000	0
School art gallery	RMB/unit	500	500	0
Platform	RMB/unit	120	120	0
Public flower pond (brick)	RMB/unit	120	120	0
Public flower pond (iron)	RMB/unit	100	100	0
Small water gate	RMB/unit	10,000	10,000	0
Bridge (mud/wood)	RMB/unit	2000	2,000	0
Bridge (concrete)	RMB/unit	50,000	50,000	0
Water exposure tank	RMB/m ²	300	300	0
Public pavilion	RMB/unit	1,000	1,000	0
Road	RMB/km		280,000	

5.2.7 Compensation rates for moving and transportation

Moving poses extra burdens, financially or otherwise, to the people who have to relocate and resettle. In the Project RAP, allowance was prepared for various moving and transportation costs and this allowance has actually applied in the resettlement work with some modifications, as shown in **Table 5.8**. Lodging and meal allowance was not considered in the real practices as most of the moving is within short distances to the original locations. The transportation cost was based on ton-kilometers, as this is the actual cost basis for transportation vehicles. The modification would particularly benefit the APs who will have longer distance moving. For example, two five ton trucks over 100 km would be compensated at the range of RMB 488 to RMB 734, with average at RMB 611, higher than the originally proposed RMB 600 per household.

Table 5.8 Allowance for Transfer and Transportation

Item	Unit	RAP	Actual	Difference
Vehicle rental	RMB/person	80	80	0
Lodging and meal	RMB/person	50	-	
Medical	RMB/person	20	20	0
Transportation	RMB/HH	600	0.488 to 0.734/tkm	
Property damage allowance	RMB/HH	200	150	-50
Lost working time	RMB/HH	300	300	0
Temporary housing	RMB/person	100	100	0

During the implementation of resettlement work, the property damage allowance has actually been reduced to RMB 150 per household, compared to the originally planned RMB 200 per household in the RAP. The result of interview with the Resettlement Officers indicates that a flat rate for property damage was found not to be the best protection, particularly if there is real damage to properties during the moving and transportation. However, in real practice, to the credit of resettlement officers, an innovative way for better protection was created: instead of paying a flat rate of RMB

200 per household, the resettlement offices paid only RMB 150 for the allowance with the RMB 50 used for purchasing property damage insurance.

5.2.8 Provisions for Vulnerable Groups

According to the RAP, submitted to ADB measures to incorporate the needs and interests of women, minority, elderly and children are proposed. Special attention should be given to the potential difficulties faced by low-income earners in the affected villages in resettlement planning and implementation. When there are adverse impacts on women, minority, elderly and children, and poor families, additional social assistance (RMB7,000 per household) will be made available to them.

In the RAP, the result of the socioeconomic survey identified a total of 49 families, including 37 ethnic minority families, 2 women-headed households, 5 single parent families and 5 poor families with per-capita income less than ADB's poverty line of RMB 1,000 are living in the Project affected areas.

During actual implementation of the resettlement activities, the Government of Wuchang has formulated specific preferential measures to assist the most venerable groups. For example, tuition fees are waived for families who have school-aged children. Relocatee families are issued a "certificate" which entitles them to three-year exemption of taxes for those who sell agricultural products at the market. Every relocatee has been provided with life insurance for the duration of resettlement.

5.3 Satisfaction of APs

Based on the interviews conducted by the external Resettlement Monitor, results show that for more than 90% of the affected households are satisfied with the compensation. During the field visits to the area of the Shanhetun Forest Bureau this time, a few households have been visited to obtain their feedback and satisfaction on compensation and payment after relocation. **Appendix 3** provides the photos for the comparison of the old and new houses of the APs who have been relocated within the Shanhetun Forest Bureau. The following provides a couple examples.

Zhao Cheng was one of the APs affected by the reservoir inundation of the Mopanshan Reservoir Harbin Water Supply Project. Before relocation, he was a railway worker at Sanchahe Forest Station. After the relocation, his job has been changed into a worker for property management of the Sanhetun Forest Bureau. His income remains the same with the level before his moving. In Zhao Cheng's family, there are 3 peoples in total, namely Zhao Cheng himself, his wife, and his daughter who is in school. They originally lived in a 36 m² house at Sanchahe Forest Station of Sanhetun Forestry Bureau. As a result of the house demolishment, Mr. Zhang has got a 40 m² a replacement house in brick structure through property exchange in Zhangxiang Township of Sanhetun Forest Bureau. In comparison with his old house, the new house is slightly big and quality is better than the one before relocation. In total, Mr. Zhao has got RMB 47,122.28 for all losses of the relocation, plus the replacement house. He is happy with the compensation and his current life after relocation. **Table 5.9** provides the compensation for the demolished house and auxiliaries of Zhao Cheng.

Table 5.9 Compensation for the Demolished House and Auxiliaries of Zhao Cheng (RMB)

Demolished Item	Unit	Quantity	Compensation (RMB)
Toilet	No.	1	30.00
Transmission wire connected to the house	No. of household	2	580.00
Fruit tree	No.	5	500.00
Tomb	No.	1	40.00
Wood wall/fence	m	50	500.00
Subsidy of relocation	No. of household	2	400.00
Subsidy of tomb	No.	1	460.00
Allowance of vehicle rental	No. of person	3	206.13
Allowance of medical cost	No. of person	3	60.00
Allowance of material transportation	No. of household	2	1,083.20
Allowance of property damage	No. of person	2	300.00
Allowance for lost of working day	No. of household	2	600.00
Allowance of temporary housing	No. of household	2	200.00
Allowance of new house construction	No. of person	3	21,173.43
Subsidy of land resettlement	No. of person	4	12,380.00
Subsidy of woodland resettlement	No. of person	4	8,609.52
Total Amount of Compensation			47,122.28

Note: The demolished mud and brick house evaluated at RMB 5,959.00 was compensated by replacement house as property exchange.

Wang Jiang was used to be a worker at Sanchahe Forest Station of Shanhetun Forest Bureau before relocation. Now he has become a nursery worker at the Afforestation Department of Shanhetun Forest Bureau without any income change. In total, there are 4 peoples in his family, including himself (42 years old), his wife (43 years old), his daughter (20 years old) and his grandson (3 years old). Originally they dwelled at Sanchahe Forest Station of Shanhetun Forestry Bureau in a 45 m² mud and brick house. Because of the relocation, the family has got total compensation of RMB 72,869.83 for all of the losses, including RMB 19,206.72 for the house demolishment. After the relocation, they have moved to a 82 m² brick house which has a value of over RMB 10,000 at Caidiwei of Sanhetun Forestry Bureau on April 30, 2005. His family feels the compensation is fair to them and they have no problem with their life in the new house and living environment. Wang Jiang is satisfied with his job change. **Table 5.10** presents the compensation paid to his family for the demolished house and auxiliaries.

Table 5.10 Compensation Paid to Wang Jiang for the Demolished House and Auxiliaries

Demolished Item	Unit	Quantity	Compensation (RMB)
Wood pig & sheep house	No.	1	80.00
Wood chicken houses	No.	1	30.00
Wood toilet	No.	1	30.00
Corn silos	No.	2	400.00
Brick vegetable cellars	No.	1	260.00
Transmission wire connected to the house	No. of household	1	290.00
Fruit trees with fruits	No.	2	200.00
Grape trees with fruits	No.	1	100.00
Hand-pump wells	No.	1	500.00
Tomb	No.	2	80.00
Mud & brick house	m ²	63.18	19,206.72
Wood barns	m ²	22.5	1,350.00
Wood property wall/fence	m ²	150	1,500.00
Homestead	m ²	1	1,092.00
Award for moving	No. of household		1,000.00
Allowance of drinking well	No.	1	300.00
Allowance of moving	No. of household	1	200.00
Allowance of tomb	No.	2	920.00
Allowance of vehicle rental	No. of person	3	206.13
Allowance of medical cost	No. of person	3	60.00
Allowance of material transportation	No. of household	1	541.60
Allowance for property damage	No. of household	1	150.00
Subsidy for lost of working day	No. of household	1	300.00
Allowance of temporary housing	No. of household	1	100.00
Allowance of new house construction	No. of person	4	28,230.43
Allowance of land resettlement	No. of person	3	9,285.00
Allowance of woodland resettlement	No. of person	3	6457.14
Total Amount of Compensation			72,869.83

For Zhang Qingchen's family, there are totally 3 peoples living in the house, including Zhang Qingchen himself (40 years old), his wife (41 years old) and his son (who is in school). They original dwelled at Sanchahe Forest Station of Sanhetun Forestry Bureau with a 45 m² mud and brick house, and now they have moved into a 52 m² brick house through property exchange at Shuangxing Township under administration of Shanhe Township which is 3 to 5 miles from the Shanhetun Forest Bureau. The new house costs about RMB 10,000 in comparison with the old house at about RMB 6,000. Zhang Qingchen is a laid-off with over RMB 10,000 one payment compensation offered by the Shanhetun Forest Bureau before relocation. **Table 5.11** presents the compensation paid to Zhang Qingchen's family for the demolished house and auxiliaries. In general, he is satisfied with the compensation.

Table 5.11 Compensation Paid to Zhang Qingchen for the Demolished House and Auxiliaries

Demolished Item	Unit	Quantity	Compensation (RMB)
Wood chicken houses	No.	1	30.00
Wood toilet	No.	1	30.00
Corn silos	No.	1	200.00
Brick vegetable cellars	No.	1	260.00
Transmission wire connected to the house	No. of household	1	290.00
Telephone	No.	1	300.00
Fruit trees	No.	2	200.00
Wood barns	m ²	16	960.00
Wood property wall/fence	m	95	950.00
Subsidy of moving	No. of household	1	200.00
Allowance of vehicle rental	No. of person	3	206.13
Allowance of medical cost	No. of person	3	60.00
Allowance of material transportation	No. of household	1	541.60
Allowance of property damage	No. of household	1	150.00
Subsidy for lost of working day	No. of household	1	300.00
Allowance of temporary housing	No. of household	1	100.00
Allowance of new house construction	No. of person	3	21,173.43
Allowance of land resettlement	No. of person	3	9,285.00
Allowance of woodland resettlement	No. of person	3	6,457.14
Total Amount of Compensation			42,693.30

In Wang Baoche's house, there are 3 family members, including Wang Baochen at 35 years old, his wife at 33 years old and his son who is in school. They originally lived in 30 m² mud and brick house at Sanchahe Forest Station of Sanhetun Forestry Bureau with compensation at RMB 15,032.80, and now they are living in a 36 m² brick building called Qingnian building with the purchase price at RMB13,000. In total, they were compensated with RMB 25,024.53 for their private property losses. In addition, they also got RMB 9,285 for the compensation of land resettlement, RMB 6,457.14 for woodland resettlement, RMB 21,173.43 for subsidy of new house construction. Before relocation, Wang Baochen was a railway maintenance worker at Sanchahe Forest Station. After relocation, he has become is a nursery worker of afforestation department of Shanhetun Forest Bureau with training. His income has no change and keeps at the same level before relocation, which is over RMB 200 per month. **Table 5.12** presents the compensation paid to Wang Baochen's family for the demolished house and auxiliaries. In general, he is also satisfied with the compensation.

Table 5.12 Compensation Paid to Wang Baochen for the Demolished House and Auxiliaries

Demolished Item	Unit	No.	Compensation (RMB)
Brick chicken houses	No.	1	30.00
Wood toilet	No.	1	30.00
Corn silos	No.	1	200.00
Brick vegetable cellars	No.	1	260.00
Transmission wire connected to the house	No. of household	1	290.00
Telephone	No.	1	300.00
Fruit trees	No.	2	200.00
Grape trees with fruits	No.	2	200.00
Broadleaf	No.	16	192.00
Hand-pump wells	No.	1	500.00
Mud brick house	m ²	49.45	15,032.80
Wood barns	m ²	14	840.00
Wood property wall/fence	m	300	3,000.00
Homestead	m ²		1,092.00
Award of moving	No. of household	1	1,000.00
Subsidy of drinking well	No.	1	300.00
Subsidy of moving	No. of household	1	200.00
Allowance of vehicle rental	No. of person	3	206.13
Allowance of medical cost	No. of person	3	60.00
Allowance of material transportation	No. of household	1	541.60
Allowance of property damage	No. of household	1	150.00
Allowance of temporary housing	No. of household	1	100.00
Allowance of new house building	No. of person	3	21,173.43
Allowance of land resettlement	No. of person	3	9,285.00
Allowance of woodland resettlement	No. of person	3	6,457.14
Total Amount of Compensation			61,940.10

Wang Sheng's family consists of only 2 persons, Wang Sheng himself, 65 years old, and his wife, 64 years old. Both of them are retired employees from Shanhetun Forest Bureau with retirement income at over RMB 200 per month for each. Originally they lived in Sanchahe Forest Station of Shanhetun Forestry Bureau with a 36 m² mud and straw house attached with 200 m² yard. After relocation, they purchased a 66 m² brick house attached with 200 m² yard close to Zhayaoku Group of Shanhetun Forest Bureau. In total, they were compensated with RMB 27,799.66 for their private property losses. In addition, they also got RMB 6,190 for the compensation of land resettlement, RMB 4,304.76 for woodland resettlement, RMB 14,115.62 for subsidy of new house construction. The couples are satisfied with the compensation they got. **Table 5.13** presents the compensation paid to Wang Baochen's family for the demolished house and auxiliaries. In general, he is also satisfied with the compensation.

Table 5.13 Compensation Paid to Wang Sheng for the Demolished House and Auxiliaries

Demolished Item	Unit	Quantity	Compensation (RMB)
Wood animal house	No.	1	100.00
Wood pig & sheep house	No.	1	80.00
Wood chicken houses	No.	3	90.00
Wood toilet	No.	1	30.00
Corn silos	No.	1	200.00
Mud vegetable cellars	No.	1	180.00
Transmission wire connected to the house	No. of household	1	290.00
Wood shed	No.	1	100.00
Fruit trees	No.	1	100.00
Broadleaf trees	No.	5	60.00
Tomb	No.	1	40.00
Mud / straw house	m ²	74.976	19,868.64
Mud barns	m ²	13.5	810.00
Wood property wall/fence	m	173	730.00
Homestead	m ²		1,092.00
Award of moving	No. of household		1,000.00
Subsidy of moving	No. of household	1	200.00
Subsidy of tomb	No.	1	460.00
Allowance of vehicle rental	No. of person	2	137.42
Allowance of medical cost	No. of person	2	40.00
Allowance of material transportation	No. of household	1	541.60
Allowance of property damage	No. of household	1	150.00
Subsidy for lost of working day	No. of household	1	300.00
Allowance of temporary housing	No. of household	1	100.00
Allowance of new house construction	No. of person	2	14,115.62
Allowance of land resettlement	No. of person	2	6,190.00
Allowance for woodland resettlement	No. of person	2	4,304.76
Total Amount of Compensation			51,310.04

In the same forest bureau, Zhang Luchen's family has similar family size with other forest workers. They have 4 family members in total, including Zhang Luchen, 60 years old, his wife, 58 years old housekeeper and his two daughters, one is married at 28 years old and another one is un-married at 26 years old. Both the couple has retired from Shanhetun Forest Bureau with monthly retirement income at over RMB 200 per month for each. Before retirement, Zhang Luchen was the head of the Sanchahe Forest Station. His four family members lived together in a 36 m² mud and brick house at Sanchahe Forest Station of Shanhetun Forestry Bureau. After relocation, they are living in a 45 m² brick house at the town center of Shanhetun Forestry Bureau headquarter. Mr. Zhang has obtained compensation of RMB 18,205 for his loss. They spent RMB 18,000 purchased the new house. From the relocation, they were compensated with RMB 34,653.48 for their private property losses, RMB 12,380.00 for the compensation of land resettlement, RMB 8,609.52 for woodland resettlement, and RMB 28,231.24 for subsidy of new house construction. **Table 5.14** presents the compensation paid to Zhang Luchen's family for the demolished house and auxiliaries. In general, he is also satisfied with the compensation.

Table 5.14 Compensation Paid to Zhang Luchen for the Demolished House and Auxiliaries

Demolished Item	Unit	Quantity	Compensation (RMB)
Wood pig & sheep house	No.	1	80.00
Wood chicken houses	No.	1	30.00
Wood toilet	No.	1	30.00
Corn silos	No.	1	200.00
Mud vegetable cellars	No.	1	180.00
Transmission wire connected to the house	No.	1	290.00
Telephone	No. of household	1	300.00
Fruit trees	No.	6	600.00
Large diameter drinking well	No.	1	3,000.00
Tomb	No.	2	80.00
Mud brick house	m ²	59.885	18,205.04
Wood barn	m ²	26	1,560.00
Plastic shed	m ²	280	3,500.00
Wood property wall/fence	m	194	1,940.00
Homestead	m ²		1,092.00
Award of moving	m ²		1,000.00
Subsidy of moving	No. of household	1	200.00
Subsidy of tomb	No.	2	920.00
Allowance of vehicle rental	No. of person	4	274.84
Allowance of medical cost	No. of person	4	80
Allowance of material transportation	No. of household	1	541.68
Allowance of property damage	No. of household	1	150.00
Subsidy for lost of working day	No. of household	1	300.00
Allowance of temporary housing	No. of household	1	100.00
Allowance of new house construction	No. of person	4	28,231.24
Allowance of land resettlement	No. of person	4	12,380.00
Allowance of woodland resettlement	m ²	4	8,609.52
Total Amount of Compensation			83,874.24

Based on the reviews of the above cases, it shows that compensation were consistent with the compensation rates and applicable entitlements. It also shows that the household owners signed their resettlement agreement and received their compensation on time, they felt satisfied about their relocation.

6. Relocation and Rehabilitation

The ultimate objective of the resettlement is to ensure that the living conditions of the affected households and host communities will be made better-off from the Project, or at least will not be made worse off as a result of the Project. Given the fact that the permanent loss of land to the Project will reduce the availability of the resources to the rural communities who depends largely on land for their livelihood, the achievement of the better-off objective will necessitate the establishment of income restoration programs that will provide the APs and their host community alternative livelihood opportunities.

The relocation and rehabilitation represent the most critical and important activities for the smooth and successful implementation of resettlement work. However, due to

the heavy workload and tight schedule, no statistical and systematic information has been compiled by the respective resettlement offices to identify the relocation destination and production and income rehabilitation programs for some of the relocated APs who have been relocated. Therefore, the progress reported on the relocation and rehabilitation activities is still based on the progress made up to the end of 2004.

It is highly recommended by the Resettlement Monitor that great efforts should be put to keep good record or filing system for the relocation destination, relocated housing, and production and income rehabilitation programs of the APs.

6.1 Relocation and Housing Reconstruction

For the construction of the four components of the Project, the reservoir inundation and water pipeline components will involve both the land acquisition and relocation of the APs. The water treatment plant involves the permanent land acquisition, and the urban water distribution network temporary land occupation.

Up to date, the number of households and populations affected by land acquisition and relocation is presented in **Table 4.2**. In total, 853 households or 3,202 persons in Wuchang City have been relocated, 87 households or 232 persons in Shanhetun Forest Bureau, and 83 households in the areas of water pipeline construction. Most of the resettlers have chosen to be relocated close to their original homes whenever practical and possible based on the preferences of the APs.

Table 6.1 provides the relocation plan of Wuchang City in the RAP. Of the total relocated families, at the end of 2004, the affected families who had lost their houses to Project land acquisition, 317 or 59% chosen to relocate within the same township (including 746 people in 166 households that were relocated in Mopanshan Village), another 156 households or 29% relocated in other towns of Wuchang City, and 63 or 12% chosen to move to other cities within the province such as Harbin, Daqing, Hailun, etc. or other provinces such as Jilin, Liaoning, Hebei, and Shangdong. Families relocated to other cities and provinces mostly have relatives and friends who they were to move to. The specific breakdowns of the relocations for the APs affected by reservoir inundation are shown in **Table 6.2**. The choices of relocation destinations in Wuchang City were more diversified based solely on the will of the people affected. The APs elect to make their own relocation and resettlement arrangement and construct, purchase, or rent their new houses. Most of the APs have chosen the destinations of Shahezi Township, Xiangyang Township, Lingfengshan Township, Weiguo Township, Chonghe Township, and Shanhe Township as proposed in the RAP.

In Shanhetun Forest Bureau, the affected households were basically within the forest bureaus and relocated to other cities or forest stations in the region. The forest bureau plans to develop new resettlement areas where new houses with the same standards and same sizes will be constructed to provide the relocated families. All except less than 10% of the affected forest workers choose to stay in the forest bureau and move to the newly developed collective resettlement areas.

As to the house restoration, demolished houses were compensated at replacement cost.

On the basis of the township planning, generally two alternative sites were provided to the APs for their selection according to their own preference: collective arrangement where houses are built by village for property exchange or receive housing compensation and make their own housing arrangements. For those who chose to reconstruct in the same villages, new housing plots free of charge were provided. The APs participated in measuring their house area, the structure and ground attachments. The compensation rate had been disclosed to them, so they can calculate the compensation they could receive. All the APs had received their housing compensation, including attachment compensation such as for sunning ground, wells, toilets etc. prior to their original houses were demolished so that they would have the funds to construct new houses before moving.

On the basis of the displaced person's wills, different approaches had been taken by those who received housing compensation: from living in their second houses (if they have), purchasing commercial houses, rebuilding houses with free house sites or renting houses temporarily. Of the families already relocated and resettled by the end of 2004, 44% bought new houses, 9% built houses on their own, 36% have been renting for the time being and have plans to buy or build in the near future, and 1% moved into their second houses. For the relocated families from the Mopanshan Village, 20 households built brick houses with a total construction space of 2,172 square meters, averaging 108.6 square meters per household or 23.1 meters per person **Table 6.2** provides the relocation destinations and housing arrangements actually involved.

Table 6.1 Arrangements of APs from Wuchang City to the Resettlement Areas (Persons) Proposed in RAP

Resettlement Area		Affected Areas					Resettlement Areas	
		Mopanshan Village	Sanchahe Village	Sanrenban Village	Dagui Village	Total	No. of Villages	Name of Villages
Forest Stations	Shengli			147		147	1	Changpu
	Yangjiagang		197			197	4	Gangli, Dongfeng, Yongzheng, Kaifa
	Baolongdian		381			381	1	Chenxiangdian
	Xiaoheihe			141		141	1	Sipingtun
	Xinglongchuan		147			147	2	Changxing, Dongjuzi
	Chonghe		251		227	478	5	Chonghe, Agricultural Farm, Fengyuan, Chaoyang, Wulisi
	Xiangyang		133			133	2	Longfeng, Xiangyang
	Halihe			350		350	1	Shahezi
	Sub-total		1109	638	227	1,974	17	
Townships	Xiangyang		70			70	2	Dianli, Yongxing
	Shanhe			9		9	1	Wanbao
	Zhiguang		34			34	1	Wuxing
	Shahezi	460				460	3	Mopanshan, Shunaglong, Shitouhe
	Weiguo		102			102	3	Weiguo, Xingshui, Xi'an
	Longfengshan		100			100	5	Xuetian, Xingyuan, Minli, Beixing, Guanghui
	Chonghe		100			100	3	Xingguo, Luqingshan, Weishahe
	Xiaoshanzi		100			100	5	Huanshan, Wuyi, Bayi, Shuangshan, Shuanghe
	Sub-total	460	506			975	23	
Total		460	1,615	647	227	2,949	40	

Note: including 9 urban population.

Table 6.2 Relocation Destinations and Housing Arrangements Actually Involved

Resettled Area	Household		Population		Resettlement Housing									
					Total		Second house		Purchased		Self-Built		Rental	
	Dec.04	Jun.05	Dec.04	Jun.05	Dec.04	Jun.05	Dec.04	Jun.05	Dec.04	Jun.05	Dec.04	Jun.05	Dec.04	Jun.05
Within Wuchang														
Shahezi Township	317	-	1,094	-	317	-	5	-	171	-	47	-	94	-
Xiangyang Township	33	-	122	-	33	-	-	-	24	-	2	-	7	-
Changshan Township	39	-	137	-	39	-	-	-	-	-	-	-	39	-
Longfengshan Township	6	-	20	-	6	-	-	-	6	-	-	-	-	-
Weiguo Township	3	-	9	-	3	-	-	-	-	-	-	-	3	-
Hongqi Township	4	-	12	-	4	-	-	-	-	-	-	-	4	-
Yingchengzhi	4	-	14	-	4	-	-	-	-	-	-	-	4	-
Dujia	3	-	8	-	3	-	-	-	3	-	-	-	-	-
Minyi	3	-	11	-	3	-	-	-	-	-	-	-	3	-
Xinsheng	4	-	15	-	4	-	-	-	-	-	-	-	4	-
Changbao	2	-	7	-	2	-	-	-	-	-	-	-	2	-
Beiyinghe	2	-	7	-	2	-	-	-	2	-	-	-	-	-
Minlei	2	-	2	-	2	-	-	-	-	-	-	-	2	-
Wuchang	8	-	24	-	8	-	-	-	3	-	-	-	5	-
Chonghe	20	-	76	-	20	-	-	-	12	-	-	-	8	-
Shanhe	23	-	86	-	23	-	-	-	15	-	-	-	8	-
Wuchang Total	473	-	1,644	-	473	-	5	-	236	-	49	-	183	-
Within Province														
Cities of Harbin, Daqing, Hailun, Tongjiang, Jixi, Hulan, Shuangcheng, and Shangzhi	13	-	48	-		-		-		-		-	-	-
Out of province														
Jilin, Liaoning, Hebei and Shandong	50	-	191	-	14	-		-	2	-		-	12	-
Total	536	-	1,883	-	487	-	5	-	238	-	49	-	195	-

For the relocates who are moved from the Xianfeng Forest Station and Sanchahe Station, their destinations are as follows (see **Table 6.3**):

Table 6.3 Destination of the Relocates from Xianfeng Forest Station and Sanchahe Station

Resettlement Area	HH		Population		Resettlement House					
					Purchased		Self-Built		Rental	
	Dec. 04	Jun. 05	Dec. 04	Jun. 05	Dec. 04	Jun. 05	Dec. 04	Jun. 05	Dec. 04	Jun. 05
Harbin City	1	-	2	-	1	-	-	-	-	-
Shanhetun	52	-	143	-	52	-	-	-	-	-
Daqing City	1	-	3	-	1	-	-	-	-	-
Qifengshan Forest Station	2	-	6	-	-	-	2	-	-	-
Shuguang Forest Station	1	-	4	-	-	-	1	-	-	-
Fendou Forest Station	1	-	3	-	-	-	1	-	-	-
TOTAL	58	-	161	-	54	-	4	-	-	-

6.2 Income and Livelihood Restoration

There are three basic livelihood restoration and rehabilitation schemes for Wuchang city:

- Farming rehabilitation mostly in the same or other villages within the same region. In the RAP, it was estimated that 71.2% of the APs would select this scheme.
- Move to other relatives and friends in and out of the region. In particular, those who select to move to other cities in the province or other provinces are within this scheme.
- Leave agriculture either move to the city or started businesses, self-employment, or other income opportunities.

According to survey statistics of the relocated households provided by HWSC at the end of 2004, among those who had already relocated and resettled, approximately 70% of the resettled households purchased agriculture land, intending to use farming as a main source of income. About 30% bought small vans, trucks, tractors or motorcycles, with some planning on adopting incoming model of “farming + transportation”. Another 10% take advantage of their skills to become migrant labors, or to operate small businesses like flour mills and repair shops. Yet another 10% run sideline businesses such as contractual plantations, mushroom farming, honey bee farming, animal husbandry and so on.

The APs have received all the agreed compensations for land lost, other properties and rebuilding house. The agriculture land has been redistributed in all the affected villages and the landholding per capita is same or slightly greater than that before the project since the stand-by or new land development has been conducted. The APs who lost their land all or partially, have been offered the replacement land with a combination of productive potential, location advantages and other factors is at least equivalent to the advantages of the land taken. The population settlement allowance was disbursed to the APs directly. The people who resettled in non-agricultural employment have

received the agreed compensation, most of them received training by the township governments to start self-employment and small businesses.

Assistance had been provided to the Affected Vulnerable Groups, such as household headed by women, household headed by elderly, household in poverty and household headed by ethnic minorities. The township government and village committee is responsible for providing the assistance.

A survey made at the end of 2004 showed that of the resettled households, 193 bought motorcycles, 380 added new home electronics, 340 had fixed line telephones, about 20% had cell phones, all had at least one television set, and all had gas supply for cooking. With proper compensation and assistance, the resettlement families basically have maintained or even improved their standard of living and life style.

6.3 Restoration of Infrastructure and Public Facilities

The progress made for the restoration of public facilities, basic infrastructure and special facilities is presented in **Table 4.10**, **Table 4.11** and **Table 4.15**, respectively.

The governments in the affected areas have apparently placed a great attention to public schools. For example, RMB 533,000 was invested in construction of a new school in Mopanshan Village with a constructed space of 1,122 square meters, which opened in to students in 2003, prior to the original school was demolished. The new school has since become the best building in the village and significant improvement in school conditions for the children of the relocated families. In addition, health care services have been highlighted in the RAP for the APs since most of them are in rural communities. Expansion of clinic service has been provided along with the construction of other public facilities.

For the Shanhetun Forest Bureau, three special infrastructure projects have been under construction or completed. These are:

- Conversion of forest railway to highway at 323 km, with an estimated investment of RMB 118.62 million;
- Construction of a 16.8-km power transmission line with an estimated investment of RMB 4.66 million; and,
- Re-construction of nurseries with a total area of 239 mu and estimated investment of RMB 3.60 million.

For removed public buildings, markets, and other public facilities, re-construction was being carried out. The resettlement offices provide substantial supports for infrastructure construction, particularly to the collective resettlement areas where houses are being constructed together. Under the current schedule, key infrastructure and utilities to serve these new resettlement areas will be completed at the same time or ahead of the housing completion. By the time, houses are completed and APs are moved in, all basic public services will be in place, such as electricity, water supply, gas supply, cable TV, roads, etc. Public services will also be in place including schools, medical clinics, markets, bus stations, etc. The planned schedule will be monitored in the future M&E periods to ensure the interruption of the life of the APs be minimized during the relocation and resettlement process. To provide continuous service to the

APs, the reconstruction and rehabilitation of the affected infrastructure have been completed before the infrastructure is actually affected.

7. Compensation Disbursement and Flow of Fund

7.1 Disbursement for Reservoir Inundated Areas

According to the RAP, the total cost of land acquisition and resettlement is estimated to be **RMB 523.718** million at the prices of June 2002, including 15% contingencies (physical and price). The breakdown of the budget for land acquisition and resettlement for the Mopanshan Reservoir is RMB 449.14 million, the pipeline RMB 35.12 million and water treatment plant RMB 39.46 million. The estimated costs include compensation for land and resettlement allowance, houses and auxiliaries, transfer and transportation, infrastructures, special facilities, land-related taxes, compensation for temporary land borrow, training, monitoring and evaluation, and other costs. The summary cost estimates for various categories of land acquisition and resettlement for the construction of the Project in RAP are included in **Table 7-1**.

Table 7-1 Cost Estimates of LAR for the Construction of the Project
(RMB 1,000)

Compensation	Reservoir			Pipeline	Water Treatment Plant	Total
	Shanhetun	Wuchang	Subtotal			
Land Compensation & Resettlement Subsidy	40,882	104,676.6	145,558.6	15,070	2,537.9	163,167
Houses & Auxiliaries	15,307	20,810.6	36,117.6	2,710	-	38,828
Rehabilitation Cost of Special Facilities/Infrastructures	3,922	7,729.7	11,651.7		-	11,652
Transportation & Transfer	1,552	1,443.1	2,995.1	80	-	3,075
Fruit Trees	711	798.4	1,509.4		-	1,509
Compensation for Rehabilitation of Specialized	120,565	10,541.8	131,106.8		-	131,107
Reservoir Clearing	3,390	1,047.1	4,437.1		-	4,437
Contingencies (physical & price)	30,464	23,415.9	53,879.9	2,750	3,810	60,440
Taxes	818	29,575.3	30,393.3	13,450	2,499.2	46,343
Others	17,962	13,528	31,490	1,060	30,611.1	63,161
TOTAL	235,573	213,566.5	449,140.5	35,120	39,458.2	523,718

According to the “Preliminary Design Report”, the estimated total investment for the reservoir inundation of Wuchang City and Shanhetun Forest Bureau is RMB 456.782 million, including RMB 214.7967 million for Wuchang City and RMB 241.9853 million for the Shanhetun Forest Bureau. The estimated total investment is in “Preliminary Design Report” is RMB 7.6415 million higher than the figure estimated in the RAP.

Up to the end of June, 2005, in total, RMB 385.012 million has been disbursed for the land acquisition and relocation for the component of reservoir inundation, of which RMB 216.3909 million has been disbursed to Wuchang City (including RMB21.784 million for the resettlement compensation of Mopanshan Village and RMB 121.822 million for the resettlement compensation of Sanchahe Village, and RMB72.7849 million for the resettlement compensation of other villages), and RMB 168.6211

million has been disbursed to Heilongjiang Forest and Industry General Bureau. Of total disbursed fund, RMB 328.7982 million has been used for the land acquisition and relocation due to reservoir inundation, including RMB 215.3367 million has been used for Wuchang City, and RMB 113.4615 million has been used for the Shanhetun Forest Bureau.

During this monitoring period, great efforts have been placed on the compensation disbursement of land acquisition for Dagui Village and Bei Sanrenban Village to be inundated for land but not houses and land under family responsibility and newly added farmland by the Wuchang Resettlement Office and Wuchang Resettlement Supervision Company as the resettlement implementation of the two villages encountered the most difficult time for the compensation disbursement. After the public notification of the land to be inundated under family responsibility and newly added farmland, the compensation disbursement should be made immediately to stop re-farming on the land acquired and the fund shortage problem to purchase the production and living materials for those who will not be moved. Great efforts have been invested in to resolve the issues. It has contributed to accelerate the resettlement progress. Up to May, the compensation disbursement for the two villages has reached 90%.

The resettlement funds disbursements are presented in **Table 7-2** for Wuchang city and **Table 7-3** for Shanhetun Forest Bureau, respectively.

Table 7-2 Resettlement Fund Disbursement in Wuchang City

Items	Received at Resettlement Office		Disbursed Up To	
	Dec. 2004	Jun. 2005	Dec. 2004	Jun. 2005
Mobanshan resettlement	243,441,477.75	245,927,221.69	23,555,557.50	23,555,577.50
Sanchahe resettlement			119,833,490.20	121,677,162.20
Daban & Sanrenban resettlement			30,153,329.90	51,753,797.49
Pipeline village resettlement			10,395,693.08	10,523,452.51
Reservoir cleanup			106,600	147,100.00
Administration			6,778,486.85	3,050,931.44
Others (admin. cost transfer to forest bureau , etc.)			682,523.73	682,839.73
Total disbursed			191,505,681.26	216,390,860.87

Table 7-3 Resettlement Fund Disbursement in Shanhetun Forest Bureau

Items	Received at Resettlement Office		Disbursed Up To	
	Dec. 2004	Jun. 2005	Dec. 2004	Jun. 2005
Forest Land Compensation	126,323,600	167,721,104.42	54,445,700	60,836,033.93
Engineering Costs			5,472,500	93,752,360.94
Advanced Pays for Engineering Works			39,024,600	900,000.00
Vehicle procurement			5,599,700	6,754,609.00
Administration			3,775,800	6,378,100.55
Total disbursed			108,318,300	168,621,104.42

According to the requirements of the Government and specified in the RAP, the Resettlement Office of HWSC in association with other relevant departments has the responsibility to facilitate the Provincial Auditor Bureau to complete the auditing work for the resettlement and fund use of Wuchang Resettlement Office and Shanhetun Forest Bureau Resettlement Office each year. During this monitoring, this auditing work has been completed.

7.2 Disbursement for Water Treatment Plant

In the RAP, the estimated cost for the LAR of water treatment plant is RMB 39.4582 million. Up to date, the full payment has been made to the affected villages and APs. The detailed compensation is presented in **Table 7-4**. It can be seen that RMB 31.8 million has been disbursed by HWSC by the end of June 2005, and RMB 25,354.74 has not been disbursed as the approval for the application of land certificate takes a long process.

Table 7-4 Disbursement for Water Treatment Plant

Name of Contract	Name of Payment	Total Amount (RMB)	Actually Disbursed (RMB)	Payment Recipient
Permanent Land Acquisition of Water Treatment Plant	Compensation Fees	21,536,243.23	21,536,243.23	Municipal Centralized Land Acquisition Station
Permanent Land Acquisition of Water Treatment Plant	Land Use Right Fee	9,545,728.00	9,545,728.00	Municipal Land Administration Bureau
Temporary Road Occupation of Water Treatment Plant	Survey and Investigation Fees	1,409.00	1,409.00	Municipal Survey & Investigation Team
Temporary Land Occupation of Water Treatment Plant	Compensation Fee	55,422.00	55,422.00	Xinfa Village, Chaoyang Township
Permanent Land Acquisition	Survey and Investigation Fees	59,660.00	59,660.00	Municipal Xindi Survey & Investigation Technology Service Department
Permanent Land Acquisition of Water Treatment Plant	Tax	571,557.59	571,557.59	Provincial Land Administration Bureau
Land Acquisition of Forest Land	Four Items Costs	33,195.72	33,195.72	Dongli Agriculture and Forest Bureau
Land Occupation of Drainage	Survey & Investigation Fees	1,490.74	-	Municipal Survey & Investigation Team
Land Certificate	Survey & Investigation Map Fees	23,864.00	-	Municipal Survey & Investigation Team
TOTAL		31,828,570.28	31,803,215.54	

7.4 Disbursement for Water Pipelines

In the RAP, the estimated cost for the LAR of water pipeline construction is RMB35.12 million. According to the approval of the Government, the total investment for the pipeline construction of the Project is RMB 40.3384 million, including RMB 13.7824 million for land compensation, RMB 19.8331 million for land reclamation fees, and RMB 6.7229 for land administration (RMB 6.0775 for farmland and RMB 645,432 for non-farmland). Of the total investment, the cost involved for the temporary land occupation of the pipeline construction in Wuchang City is RMB 11.5488 million. The details are presented in **Table 7-5**.

Up to the end of June 2006, the compensation for all temporary land occupation has been disbursed by HWSC to the land resources bureau of respective cities. The additional increase investment of the impacts is not included in the monitoring report and will be covered in the next monitoring report.

As a result of the pipeline construction, various types of trees also have been cut. The total compensation is RMB 3.75 million, which has been disbursed to the respective city Land Resource Bureau and Forest Station by the HWSC. **Table 7-6** provides the detailed information for tree cutting due to the construction of water pipeline.

Table 7-5 Compensation Disbursement of Temporary Land Occupied in Wuchang City (Unit: RMB)

Administration Villages	Paddy Land	Dry Land	Veg. Land	Orchard Land	Grassland	Other Agricultural Land	Construction Land	Un-used Land	Aquatic Surface	Total
Lalin Township										
Dongmen	6,888.84	172,514.16	-	-	-	4,617.60	-	-	248,283.00	432,303.60
Zhenbei	20,422.26	275,380.56	98,496.00	-	-	2,692.56	49,551.84	2,098.20	-	448,641.42
Taiping	20,783.34	19,995.30	9,747.00	-	-	591.24	-	-	-	51,116.88
Minfeng	42,287.32	74,082.06	71,740.20	-	-	1,257.36	26,173.68	1,393.08	69,604.50	291,538.20
Beitu	215,401.92	232,130.34	-	-	-	2,461.68	-	-	-	449,993.94
Shiren	-	151,250.58	-	-	-	1,388.40	5,135.52	93.6	-	157,868.10
Subtotal	310,783.68	925,353.00	179,983.20	-	-	13,008.84	80,861.04	3,584.88	317,887.50	1,831,462.14
Shahezi Township										
Mopanshan	140,038.86	116,599.86	1,630.20	-	-	3,004.56	6,561.36	10,868.52	-	278,703.36
Shahezi	350,888.34	164,897.46	6,948.00	-	-	2,202.72	870.48	5,484.96	178,531.50	709,373.46
North Shahezi	315,067.08	40,336.92	-	496.8	-	266.76	-	2,052.96	17,577.00	375,797.52
Limushan	63,387.24	-	-	-	-	471.12	-	-	-	63,858.36
Halahezi	426,810.72	33,377.76	-	-	-	4,035.72	-	3,981.12	28,843.50	497,048.82
Shuanglong	246,238.86	14,241.24	-	-	-	6,594.12	-	-	41,664.00	308,738.22
Subtotal	1,542,431.10	369,453.24	8,128.20	496.8	-	16,575.00	7,431.84	22,387.56	-	
Xiangyang Township										
Zhifu	381,672.18	97,138.08	-	2,728.80	-	13,284.96	33,009.60	24,844.56	619.5	553,297.68
Jianguo	161,232.84	44,001.36	-	-	-	1,088.88	-	2,544.36	-	208,867.44
Qunfu	235,689.66	1,946.88	-	-	-	4,747.08	-	-	-	242,383.62
Sanhao	254,249.88	-	-	-	-	5,091.84	842.4	1,584.96	-	261,769.08
Sanzhong	93,859.56	-	-	-	-	733.2	-	-	-	94,592.76
Zhongyuan	240,012.00	-	-	-	-	2,127.84	939.12	-	-	243,078.96
Dong Xinli	251,984.28	54,252.90	-	9,698.40	-	8,551.92	24,679.20	3,510.00	-	352,676.70
Xintu	339,146.16	109.98	-	-	-	11,665.68	1,344.72	-	-	352,266.54
Baoshan	122,643.30	4,417.92	-	-	-	3,377.40	-	410.28	-	130,848.90
Yongxing	58,271.52	57,103.02	-	-	-	385.32	4729.92	-	-	120,939.78
Subtotal	2,139,211.38	258,970.14	-	12,427.20	-	51,054.12	65,544.96	32,894.16	619.5	2,560,721.46
Beiyinhe Township										
Lanqi	61,705.74	261,097.20	3,636.60	-	-	6,414.72	27,992.64	-	-	360,846.90
Beiyinhe	2,402,405.96	65,892.06	184,497.60	-	-	2,859.48	-	2,330.64	-	657,985.74
Guanjia	148,279.88	158,911.74	-	-	-	30,746.04	12,648.48	1,627.08	-	352,213.32

Administration Villages	Paddy Land	Dry Land	Veg. Land	Orchard Land	Grassland	Other Agricultural Land	Construction Land	Un-used Land	Aquatic Surface	Total
Subtotal	612,391.68	485,901.00	188,134.20	-	-	40,020.24	40,641.12	3,957.72	-	1,371,045.96
Dujia Township										
Kaifa	160,209.78	51,763.14	-	-	-	2,818.92	5,684.64	1,272.96	345,040.50	566,789.94
Yonglian	296,510.40	561.6	-	-	-	631.8	22,804.08	1,226.16	-	321,734.04
Xianfeng	53,096.46	35,441.64	-	-	-	875.16	-	-	-	89,413.26
Qiyi	173,013.96	22,807.98	3,180.60	-	-	519.48	-	967.2	-	200,489.22
Dujia	33,757.44	105,941.16	14,968.20	24,552.00	-	4,419.48	82,992.00	11,264.76	-	277,895.04
Xingfu	242,751.96	5,042.70	8,401.80	-	-	1,730.04	-	151.32	-	258,077.82
Changxing	14,560.02	-	-	-	-	-	-	-	-	14,560.02
Banjihezi	188,774.04	12,125.88	76,357.20	-	-	3,775.20	4,870.32	-	-	285,902.64
Subtotal	1,162,674.06	233,684.10	102,907.80	24,552.00	-	14,770.08	116,351.04	14,882.40	345,040.50	2,014,861.98
Niujia Township										
Zhengxin	40,154.22	261,698.58	33,299.40	-	-	4,325.88	26388.96	6,073.08	-	371,940.12
Niujia	-	108,021.42	-	-	-	650.52	-	-	-	108,671.94
Zhengfu	-	222,262.56	-	-	-	1,118.52	-	-	-	223,381.08
Zhengpu	-	179,414.82	-	-	-	2,335.32	25,949.04	-	-	207,699.18
Subtotal	40,154.22	771,397.38	33,299.40	-	-	8,430.24	52338	6,073.08	-	911,692.32
Yingchengzi Township										
Yingchengzi	38,207.22	174,772.26	-	-	-	1,210.56	-	773.76	-	214,963.80
Subtotal	38,207.22	174,772.26	-	-	-	1,210.56	-	773.76	-	214,963.80
Wuchang Township										
Huashu	102,040.50	180,273.60	13,702.80	-	-	4,310.28	15,565.68	-	-	315,892.86
Wanbaoshan	-	92,153.88	14,968.20	11,808.00	-	1,628.64	29,471.52	959.4	115,542.00	266,531.64
Jinshan	2,378.88	100,638.72	3,659.40	-	559.2	1,260.48	7,288.32	7,029.36	13,240.50	136,054.86
Subtotal	104,419.38	373,066.20	32,330.40	11,808.00	559.2	7,199.40	52,325.52	7,988.76	128,782.50	718,479.36
Anjia Township										
Taipingqiao	-	174,168.54	4,366.20	41,731.20	-	2,140.32	1,662.96	2,258.88	50,578.50	276,906.60
Fangshengang	4,665.72	83,439.72	-	-	-	711.36	-	295.92	73,594.50	163,007.22
Dengta	18,156.66	25,770.42	-	6,530.40	-	655.2	258.96	1,218.36	-	52,590.00
Shuangyue	77,338.38	42,316.56	-	-	-	570.96	-	-	-	120,225.90
Pingyuan	10,212.90	109,762.38	-	56,743.20	-	912.6	-	5,066.88	9,303.00	192,000.96
Shangxi	17,572.56	241,904.52	-	75,988.80	-	1,383.72	-	453.96	30,712.50	368,016.06
Anjia	-	152,743.50	2,211.60	1,447.20	-	368.16	6,052.80	82.68	43,942.50	206,848.44
Xingye	186,172.14	107,242.20	-	-	-	1,967.16	742.56	-	27,237.00	323,361.06
Subtotal	314,118.36	937,347.84	6,577.80	182,440.80	-	8,709.48	8,717.28	9,676.68	235,368.00	1,702,956.24

Administration Villages	Paddy Land	Dry Land	Veg. Land	Orchard Land	Grassland	Other Agricultural Land	Construction Land	Un-used Land	Aquatic Surface	Total
State Land										
Qingshan Forestry Center of Forestry Bureau	149,083.56	9,425.52	-	-	-	-	1,369.68	174.72	-	160,053.48
Xiangyang Forestry Center of Forestry Bureau	-	-	-	-	-	-	184.08	-	-	184.08
Water Conservancy Land of City Government	-	-	-	-	-	-		33,472.92	-	33,472.92
Hongqi Sand Factory	-	-	-	-	-	-	10,012.08	-	-	10,012.08
153 Family House	-	-	-	-	-	-	3,759.60	-	-	3,759.60
Eastern Breeding Base	-	-	-	-	-	7,644.00		-	-	7,644.00
Dibao Organic Fertilizers	-	-	-	-	-	-	7,531.68	-	-	7,531.68
Subtotal	149,083.56	9,425.52	-	-	-	7,644.00	22,857.12	33,647.64	-	222,657.84
TOTAL	6,413,474.64	4,529,945.16	551,361.00	231724.8	559.2	168,621.96	447,067.92	135,866.64	1,027,698.00	11,548,841.10

Table 7-6 Compensation Disbursement for the Tree Loss due to the Construction of Water Transmission Pipelines

Affected Township/ Forest Station	Compensation Disbursement (RMB)			
	Total	Lost of Trees	Relocation Allowance	Forestry Re-vegetation
Shahezi Township	141,832.00	60,116.00	9,352.00	72,364.00
Xiangyang Township	1,087,070.60	257,418.10	92,176.50	737,476.00
Dujia Township	622,005.80	222,530.80	47,070.00	352,405.00
Niujia Township	31,956.50	5,033.50	2,925.00	23,998.00
Beiyinhe Township	277,706.60	64,518.60	23,620.00	189,568.00
Anjia Township	715,214.60	173,828.60	65,300.00	476,086.00
Wuchang Township	96,980.50	37,645.50	7,340.00	51,995.00
Lalin Township	210,258.00	41,043.00	23,095.00	146,120.00
Baoshan Forest Station	267,004.00	116,218.00	16,755.00	134,031.00
Beiyinhe Forest Station	300,712.00	165,717.00	15,000.00	119,995.00
Total	3,750,740.60	1,144,069.10	302,633.50	2,304,038.00

7.5 Flow of Fund

For the disbursement of the compensation payment, HWSC is responsible for the financing of land acquisition and resettlement costs under the Project. In accordance with the compensation policies and rates given in this RAP, HWSC has signed compensation agreements with and advance the LAR funds to the RO of Wuchang City and Shanhetun Forest Bureau for the losses of Mopanshan Reservoir inundation, which in turn provides the LAR funds to the resettlement offices of Shahezi Township, Xianfeng Forest Station, Hangsong Forest Station and Shanchahe Forest Railway Station. HWSC also signed compensation agreements with and advance the LAR funds to the RO of Wuchang, Shuangcheng (within Shuangcheng Land Resources Bureau), Harbin (within Harbin Dongli District Land Resources Bureau) for the losses of pipeline and water treatment plant. The HWSC is also responsible to budget, allocate and disburse LAR payments directly to the infrastructure agencies.

There are two ways to disburse the land compensation funds:

- To the rural collective units or forest stations, which will be responsible for resettlement of the APs by re-assign the same amount and types of lands to the individual APs. The rural collective units/forest stations may use the funds to develop new land areas, improve agricultural infrastructure as such irrigation facilities to help increasing agricultural productivity, or other applications as agreed by village meetings such as training, creation of employment or income opportunities, etc.
- Directly to the individual APs who lost their lands to the Project and choose to resettle under their own arrangements. These APs would use the compensation funds to purchase agricultural land or start other way of living and earning incomes such as small shops, etc. at their new resettled areas.

The flow of the compensation disbursement closely follows the approved RAP.

According to the institutional arrangements, the resettlement offices of Shahezi Township, Xianfeng Forest Station, Hangsong Forest Station and Shanchahe Forest Railway Station, Wuchang, Shuangcheng and Harbin will pay the following land acquisition and resettlement funds to:

- township governments/village committees for: a) the losses of agriculture land and non-agriculture land and homestead permanently affected; and b) affected community assets (if there is any from the final inventory survey);
- affected households for the losses of agriculture land and non-agriculture land and homestead temporarily affected;
- compensation of young crops and attachments which should be paid to individuals;
- affected households for the compensation of affected houses, productive assets, i.e. trees, and various allowances;
- private businesses, and public utility companies for the impacts on public infrastructure and special facilities.

The compensation and resettlement subsidy for permanent land loss is paid to the affected villages and forest stations. The payment is made through the resettlement offices of each affected village and forest station. These entities will distribute the land compensation and resettlement subsidy in cash to the individual AP who will be resettled under their own choice and arrangement, mostly under the sponsorship of relatives or friends. For those who will be resettled to the resettlement sites arranged by the local government, the land compensation and resettlement subsidy in cash are paid to the affected villages and forest stations to purchase new land in other villages or forest stations and invest the livelihood and income rehabilitation activities for the APs.

Based on the site observations, discussion with the accounting staff of the resettlement offices, independent resettlement supervision company, and other resettlement officers, as well as review of the available documents, including very detailed monthly financial statements (balance sheets, disbursement sheets, etc.), the disbursement was in order for the monitoring period and was in general in compliance with the disbursement plan and overall resettlement progress, although some partial transfer to the Resettlement Office of Wuchang City and Shanhetun Forest Bureau was slightly behind the schedule.

It should be noted however, the current resettlement monitoring is not, and cannot replace, a formal independent financial audit. All financial reports and financial statements prepared by the resettlement offices and resettlement supervision company should be audited by professional accountants to ensure the financial soundness as well as the proper utilization of the resettlement funds.

8. Public Consultation and Grievance Procedures

8.1 Participation and Consultation

The resettlement and rehabilitation program of the project was carried into execution

through the active participation and consultation of the APs. The participation and consultation methods were:

To carry out the land acquisition and resettlement properly and timely, various public consultation activities have been undertaken in the inundated areas and host villages during this resettlement monitoring period. The APs have participated in the resettlement work. The major activities include:

- Participation of APs in the checking of ground attachments;
- Involvement of APs in discussion of the compensation policies and regulations;
- Involvement of APs in planning for the demolition implementation;
- Publication of compensation plan by resettlement offices;
- APs (including units) involvement in discussion of the engineering design of the Project;
- Involvement of APs in discussion of the environmental protection measures; and,
- Participation of APs in the monitoring of the economic and living standards increase.

During the current monitoring period, staff and officers from HWSC as well as resettlement offices of all levels had regularly and frequently visited to the affected villages and forest stations. One of the major tasks of these visits were to talk to the APs, listen to their concerns on the on-going demolition, relocation and resettlement work, and to any suggestions and requests they may have on the current programs, compensation and disbursement schemes, etc. There is clearly continued and intended effort to consult the public, particularly the APs on the resettlement programs, schemes, compensation rates, specific cases, etc. Public participation to the resettlement work was evident. **Table 8.1** presents the major public consultation and resettlement activities carried out during this monitoring period.

The public consultation activities during this monitoring period were concentrated in the Kaoshan *Tun* and Bei Sanrenban Village. Since the Chinese New Year, Wuchang Resettlement Office has proposed their new plan based on the past lessons learned to complete the resettlement of Kaoshan *Tun* and Bei Sanrenban Village and disburse the compensation payment as soon as possible for those households whose houses will not be relocated but partial land is acquired. The target was to fully complete the relocation of the households in Kaoshan *Tun* and Bei Sanrenban Village by the end of April, and meanwhile to complete the compensation disbursement and relocation of Xishan *Tun*, No. 2 Team of Sanrenban and Dagui *Tun*. The Wuchang Resettlement Office has sent propaganda vehicles to conduct circulating propaganda campaign to broadcast the notification of land acquisition and resettlement to the public, ban of the farmland farming activities within the scope of the reservoir land acquisition this year, and completion of the relocation of all households.

In addition, the Wuchang Resettlement Office in association with local governments have carried out extensive and intensive propaganda on land acquisition and resettlement policy and paid household visits. Mass media promotion has also been carried out. For example, on May 11, the General Secretary of Wuchang City, Xiao Jianchun led the leaders of relevant departments to meet the villagers' representatives of Bei Sanrenban Village to consult the comments and requirements of the APs.

During the implementation period, the APs were well informed and educated. In addition, the higher compensation rate at 13 times (the highest compensation rate in the province for hydro projects) has made the APs benefited from the compensation which in turn facilitated the smooth implementation of the land acquisition and resettlement.

However, there were two households in the Bei Sanrenban Village of Shahezhi Township who were reluctant to move. The Wuchang Resettlement Office with the assistance of the Wuchang People's Court has made great efforts to persuade the APs on the "Implementation Regulation of PRC Land Administration Law". The leaders of the Wuchang City, Shahezhi Township and Bei Sanrenban Village have conducted many visits to the two individual households to educate them from legal aspects and make them aware of the importance of their moving and educate them to move timely. As a result, the households have been relocated.

Table 8.1 Major Public Consultation and Resettlement Activities Conducted during this Monitoring Period

Month	Date	Major Public Consultation Activities
January	5 th	Held the workshop on Resettlement Implementation Plan. The participating organizations included the Project Command Post, Resettlement Office of Wuchang City, Resettlement Supervision Company, etc.
	6 th	Held the meeting on Resettlement Implementation Plan in HWSC. Mr. Tan of HWSC, the General Manager, informed the participants that the Provincial Development and Reform Commission had agreed the resettlement budget adjustment, and the budget can be changed according to the design and the baseline reviewed and approved by the Provincial Water Resource Bureau and implementation can be taken in advance.
	7 th	The Resettlement Offices and Resettlement Supervision Company discussed the resettlement implementation plan and decided to include 150 registered forest workers without certificates of private properties into the scope of resettlement compensation.
	17 th	The Resettlement Office and Resettlement Supervision Company held working meeting. The Supervision Company raised the suggestion on the missing items, evaluation materials, and formulating checking tables of forest land clearance.
February	17 th	Provincial DRC formally issued "Approval of Missing Items for the Engineering Design of Mopanshan Reservoir Project".
	Feb 16 th - Mar 3 rd	Resettlement field investigation by the resettlement officers to the Wanzhou Area of Three Gorges as well as in the Congming County of Shanghai City.
March	6 th	Held the resettlement conference to discuss the report of investigation team and the suggestions and comments on the revision of the resettlement implementation plan. After the resettlement implementation plan was confirmed and discussed by the Community Party and Administrative Cadres of the Shanhetun Forest Bureau, it will be submitted to the Forestry Industry General Bureau for approval.
	13 th	The Community Party and Administrative Cadres of the Bureau held meeting to discuss the resettlement implementation plan, to confirm the population as the calculation basis for compensation and subsidy.
	16 th	Cost estimate meeting was held for the construction budget of new resettlement areas in the Forest Bureau
	17 th - 19 th	All staff of the Resettlement Supervision Company was divided into two groups to go to Xianfeng, Hansong and Sanchahe Stations to attend the resettlement implementation plan workshop and consulted with the resettlers.
	25 th	Held the Reporting Meeting of Resettlement Implementation Plan in the Provincial Forestry Industry General Bureau and approved "Resettlement Implementation Plan".
	29 th	The Resettlement Office and Resettlement Supervision Company held the resettlement workshop, chaired by the General Commander and Deputy Director General of Forestry Industry General Bureau to discuss the formation of resettlement working team and training on resettlement.
April	2 nd	Held the Press Conference about the resettlement work in Shanhetun Area. The director of the Wuchang Resettlement Office made the Press. The General Supervisor of the Resettlement Supervision Company demonstrated 4 differences between rural resettlement and forestry resettlement and 5 misunderstandings of resettlers' thoughts.
	6 th to 8 th	The Resettlement Office of the Shanhetun Forest Bureau in association with the Resettlement Supervision Company held the training on resettlement. More than 30 members of resettlement working team members from public security bureau, procuratorate bureau, courts, discipline investigation commission, public information department and so on. The general supervisor of Resettlement Supervision Company introduced experiences and actions of resettlement work of Wuchang City and filling of relevant tables. The resettlement supervisors introduced the regulations, policies and compensation methods about relevant resettlement work as well as financial management of resettlement.
	14 th	Resettlement working team moved into Xianfeng Forest Station, Hansong Administration Station (administrating the Sanchahe Station Area).
	15 th - 18 th	Xianfeng Forest Station held the resettlement working meeting and conveyed "Resettlement Implementation Plan". Hansong Administration

Month	Date	Major Public Consultation Activities
		Station also held the resettlement working meeting and conveyed "Resettlement Implementation Plan".
	20 th	Conducted field inspection and provided guidance for the resettlement work by the resettlement officers.
	15 th – 24 th	Resettlement Working Team visited the households in Xianfeng Forest Station, Hansong Administration Station and Sanchahe Station Area to publicize the resettlement policies and disclose "Resettlement Implementation Plan", "Investigation Form of Resettlers' Destination" and notification.
	28 th	Held the meeting for all resettlers in Xianfeng Forest Station.
	30 th	Completion of the investigation forms of resettlers' destination in Xianfeng Forest Station, Hansong Administration Station (adminstrating the Sanchahe Station Area), totaling 85 households.
May	2 nd to 20 th	All members of Hansong Working Team in association with fire department of Forest Bureau repaired 6 simple bridges between Sanchahe and Hansong and 12 mile low-lying roads in poor condition for the preparation of resettlement site work.
	9 th to 20 th	Resettlement Working Team paid emphasis on the visits to people who work outside and continued to carry out resettlement propaganda and explanation and obtain responses back from the resettlers.
	11 th to 20 th	Resettlement Working Team conducted the check of resettlers' property index and household registration for those who has already signed the investigation form of resettlers' destination (completed the check of 45 households in Sanchahe Station Area).
	16 th – 19 th	Completed the photo and video tape of public house facilities and private houses of resettlers in Xianfeng Forest Station, Hansong Administration Station, and the Sanchahe Station Area.
	18 th – 24 th	To ensure the completion of resettlement in the area of Sanchahe reservoir bottom before flooding season, Hansong Working Team strengthened the propoganda of the "Resettlement Implementation Plan". After the completion of the investigation form of resettlers' destination, they immediately started the check of household registration and property index, organized transportation vehicles, and overcome any conflicts of resettlers and other difficulties such as tight schedule of house demolishment, low-lying and muddy road condition of transportation, etc.. On April 25, the resettlement of 45 households in Sanchahe Station Area was completed. Shanhetun Forestry Bureau decided to cancel the construction of Xianfeng Forest Station and merge Xianfeng Forest Station to Shuguang Forest Station. On May 19, Shuguang Forest Station fully took the salary, personnel and financial matters of Xianfeng Forest Station and transported files and equipments back.
	20 th – 30 th	Xianfeng and Hansong Forest Stations demolished clubs, garages, guest houses, tree nursery cellars and 5 private houses of resettlers. The demolishment of public houses and private houses of Sanchahe Station Area was completed.
	28 th	Resettlement Supervision Company submitted "Report on Inspection and Audit of Funds by the Resettlement Command Post of Shanhetun Area of Mopanshan Reservoir"(Jian Li [2005] No. 1).
	29 th	Xianfeng Forest Station publicized qualification of resettlers' household registration.
June	30 th	In the 3 resettlement areas, 170 households (115 persons) accumulately signed the investigation forms of resettlement destination and 31 households (95 persons) have already relocated. In total, 26 households (78 persons) in Sanchahe Station have been moved out.
	5 th	Hansong Administration Station publicized the qualification of resettlers' household registration and property index.
	13 th – 25 th	Resettlement Office paid cash to the resettlers of Sanchahe Station for the compensation and subsidy.
	24 th	Resettlement Working Team issued "Notification of Filling the Investigation Form of Resettler's Destinations before Deadline". The deadline is set on June 30.
	18 th	Resettlement Command Post submitted "Reply to the Problems of Resettlers' Appeal in Forest Area" to HWSC.

8.2 Information Disclosure

The Resettlement Information including resettlement policies, compensation standards, rehabilitation options and grievance procedures had been disclosed to villagers at the beginning of the Project started, through public meetings and notifications. In addition, booklets containing information on resettlement regulations, compensation standards and contact information have been distributed to all the APs.

For villages in Wuchang city, there is completely transparent and open program on compensation. Land, housing, attachments and other personal properties were first measures and counted for and the results were posted at the villages. Also posted are the compensation rates, standards, eligible members for compensation for every family affected, as well as the total compensation to the dollar and cent, as determined by the measurements, rates and family sizes. Any and every villagers can read, challenge, comment or dispute on the information posted. Based on the feedback from the villagers, the compensation programs would be revised and the revised results would be posted again for further public review and scrutiny. Each village would carry out at least three rounds of such disclosure and revision, some up to five rounds, before the compensation programs can be finalized.

At the Shanhetun Forest Bureau, large color posters showing the layouts of the planned new resettlement areas were presented. Information booths were also put up to post related policies, procedures, compensation standards, compensation amounts for each families, etc.. The National Development and Reform Commission (NDRC) approval document, resettlement guidelines and other policy documents were condensed into a Resettlement Information Brochure that was distributed to every relocated household. Each morning and evening's radio programs were also broadcasted in the project area, containing news, progress and cases for relocation and resettlement. Comments and suggestions were gathered from the relocated families through extensive consultations. Clarifications and explanations were provided in response to APs questions.

Selected interviews during monitoring with the APs show that they were fully aware the relevant regulations, policies, procedures as well as relocation and resettlement plan and compensation they are entitled. The information disclosure seems to be effective and achieved its intended objectives.

9. Grievance Procedures

Since the entire Resettlement and Rehabilitation program was being carried out with the participation of the APs, no major grievance issue arisen during the monitoring period. Most complaints were received, and resolved, at the village and township levels. The city/forest bureau resettlement offices received much smaller number of complaints and for the whole monitoring period, there were a few cases received at the HWSC office, which were addressed by the ROs timely.

To ensure that the APs have avenues for redressing their grievance related to any aspect of land acquisition and resettlement, detailed procedures of redressal of grievance, proposed during Project preparation in the Project RAP, was in place and apparently

working. The objective is to respond to the complaints of the APs speedily and in a transparent manner. The mechanism is designed to be easy, accessible, transparent and fair and to respond to grievance issues in an effective manner without resorting to complicated formal channels to the extent possible. By resolving grievance at the project level, the progress of the project would be more effectively ascertained.

The procedures are as follows:

Stage 1:

If any person is aggrieved by any aspect of the resettlement and rehabilitation program, he / she can lodge an oral or written grievance with the Village Administration Committee or the local township resettlement office (TRO). In case an oral complaint is made, it will be written on paper by the village unit and processed. The Village Administration Committee (VAC) or the TRO will resolve the issue within two weeks.

Stage 2:

If the aggrieved person is not satisfied with the decision in stage 1, he / she can bring the complaint to the attention of the city or forest bureau RO within one month from the date of the receipt of the decision in stage 1. The senior ROs will reach a decision on the complaint within two weeks.

Stage 3:

If the aggrieved person is not satisfied with the decision of the senior ROs, he / she can bring the complaint to the attention of the Resettlement Office of HWSC, set at the RO of HWSC within one month from the date of the receipt of the decision in stage 2. RO will reach a decision on the complaint within three weeks.

Stage 4:

If the AP is still dissatisfied by the decision, he / she can appeal to the Peoples Court in accordance with the "Civil Procedure Act" within 15 days of receiving the decision of the RO of HWSC.

APs can make and appeal on any aspect of the resettlement and rehabilitation program, including compensation rates being offered. Detailed procedures for redressal of grievances and the appeal process is publicized among the APs during participation meetings and also posted in the Village Administration Committees, TROs, RO of Forest Bureau RO and RO of Wuchang City.

In actual practice, the procedures did not have to be so strict. Staff and officers from HWSC and senior resettlement officers went to the villages and forest stations very often. They, together with their village/forest station counterparts would certainly hear complaints, answer questions, respond to comments, etc. APs do not have to travel to Wuchang or Harbin to raise their complaints and they can have officers from all levels of ROs in the same rooms to hear their concerns and complaints and to have their issues resolved.

During the monitoring period, there was no major complaint and no strong actions from the APs showing their dissatisfactions or disagreements on the arrangements, compensation or any other aspects of the resettlement. It should be noted, however, the resettlement was still under way and most of the rehabilitation was yet to start. The APs would face more difficult in their new houses and new home for restoration of their lives. The future monitoring work should continue to have close monitoring on the grievance procedures.

In addition, information on all of the households has been kept into files as records by the Resettlement Office of Wuchang City and sent to the Filing Office. Also some audio visual materials have been compiled reorganized and compiled as records for use.

10. Institutional Arrangement and Capacity Building

There is a well organized institutional structure for management and implementation of the resettlement work. The overall management of the resettlement work is led by HWSC which has a Resettlement Department and a Land Acquisition Department. One Vice President of HWSC is responsible for leading the resettlement work and provides guidance to ROs in Wuchang, Forest Bureau and other levels of jurisdictions (**Figure 10.1**). There were eight full time staff within the two departments for the resettlement work which may increase as may be needed by the work loads.

Wuchang city has set up its own Project Resettlement Leading Group (RLG), chaired by Mr. Sun Xianchen, Mayor of Wuchang City. Mr. Meng Xiancheng, Vice Chair of the Wuchang Municipal People's Congress serves as the Executive Deputy Chair. Several vice mayors serve as the deputy chairs. The members of the RLG consist of more than 30 agencies, involving virtually all agencies and organizations in the city which may relate to one way or the other the resettlement work. **Figure 10.2** provides the organizational chart of Wuchang Resettlement Management Office, and **Figure 10.3** is the organizational chart of Shanhetun Forest Bureau Resettlement Management.

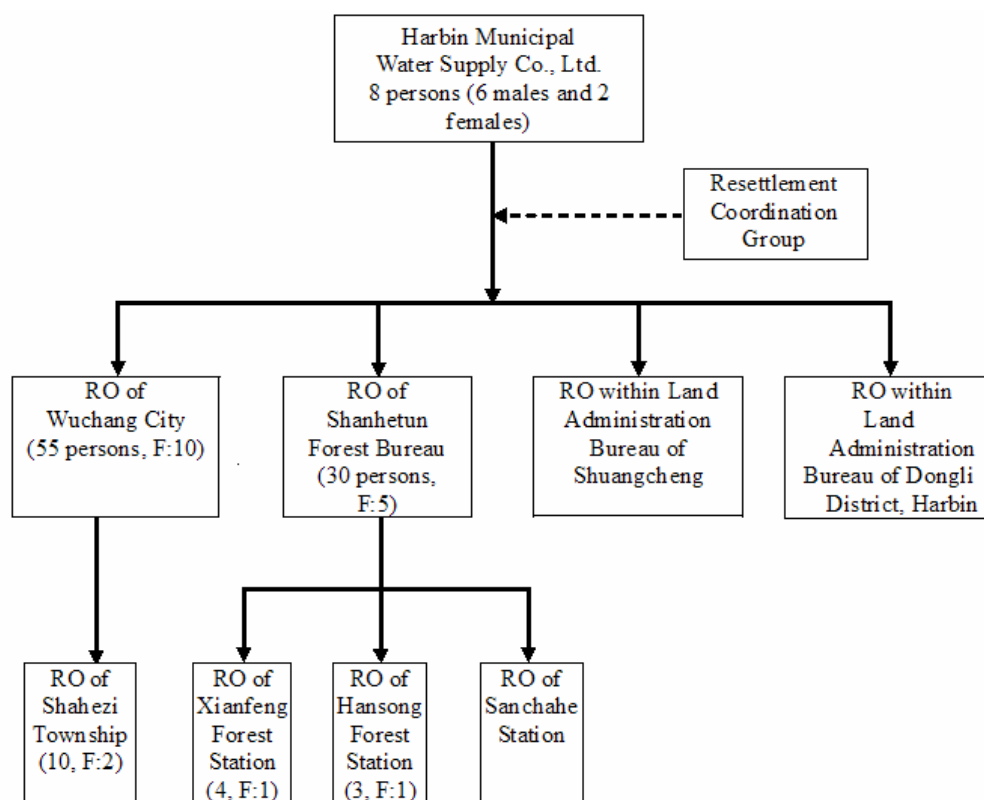
Figure 10.1 Project Wide Resettlement Organizational Chart

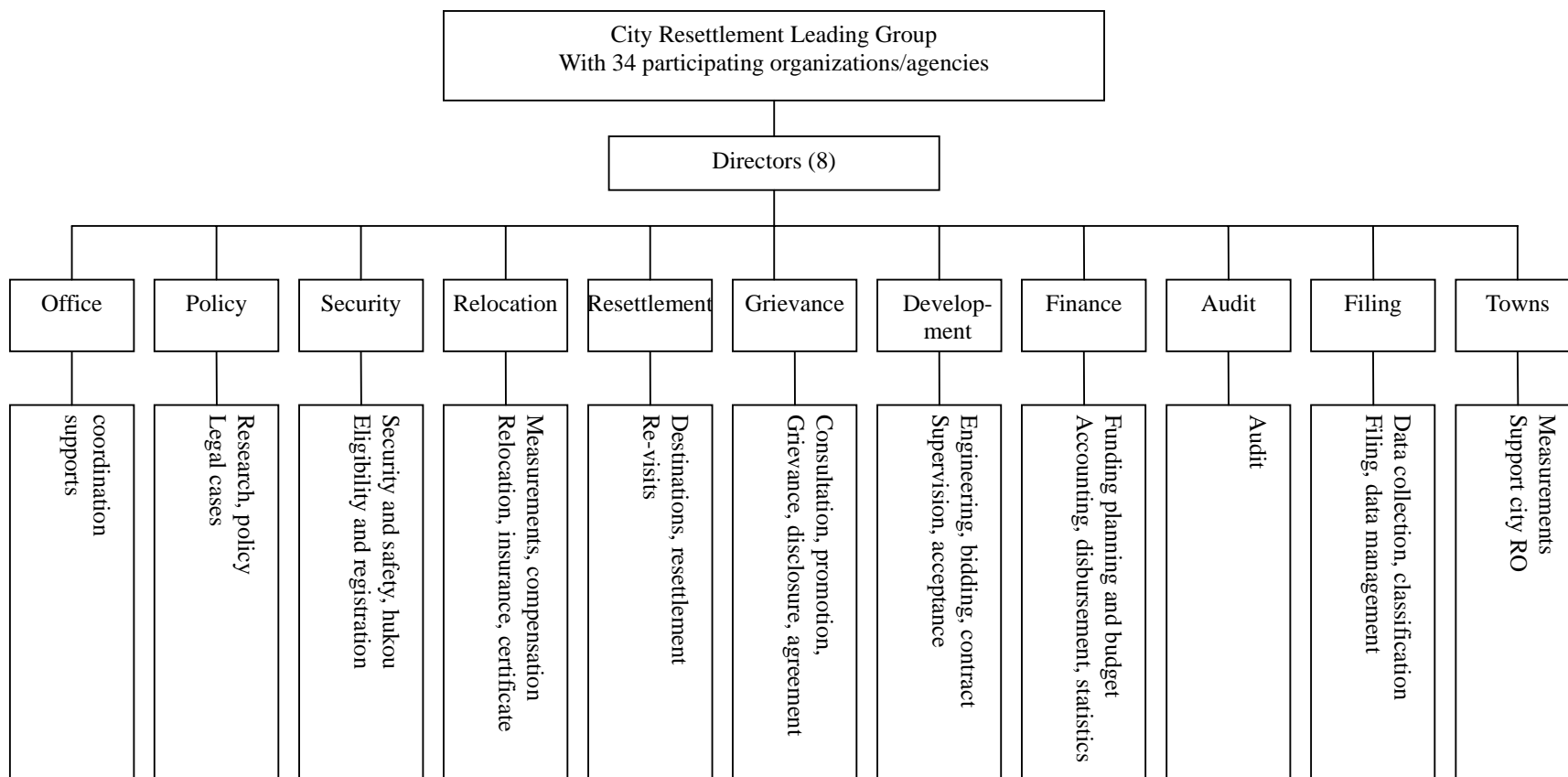
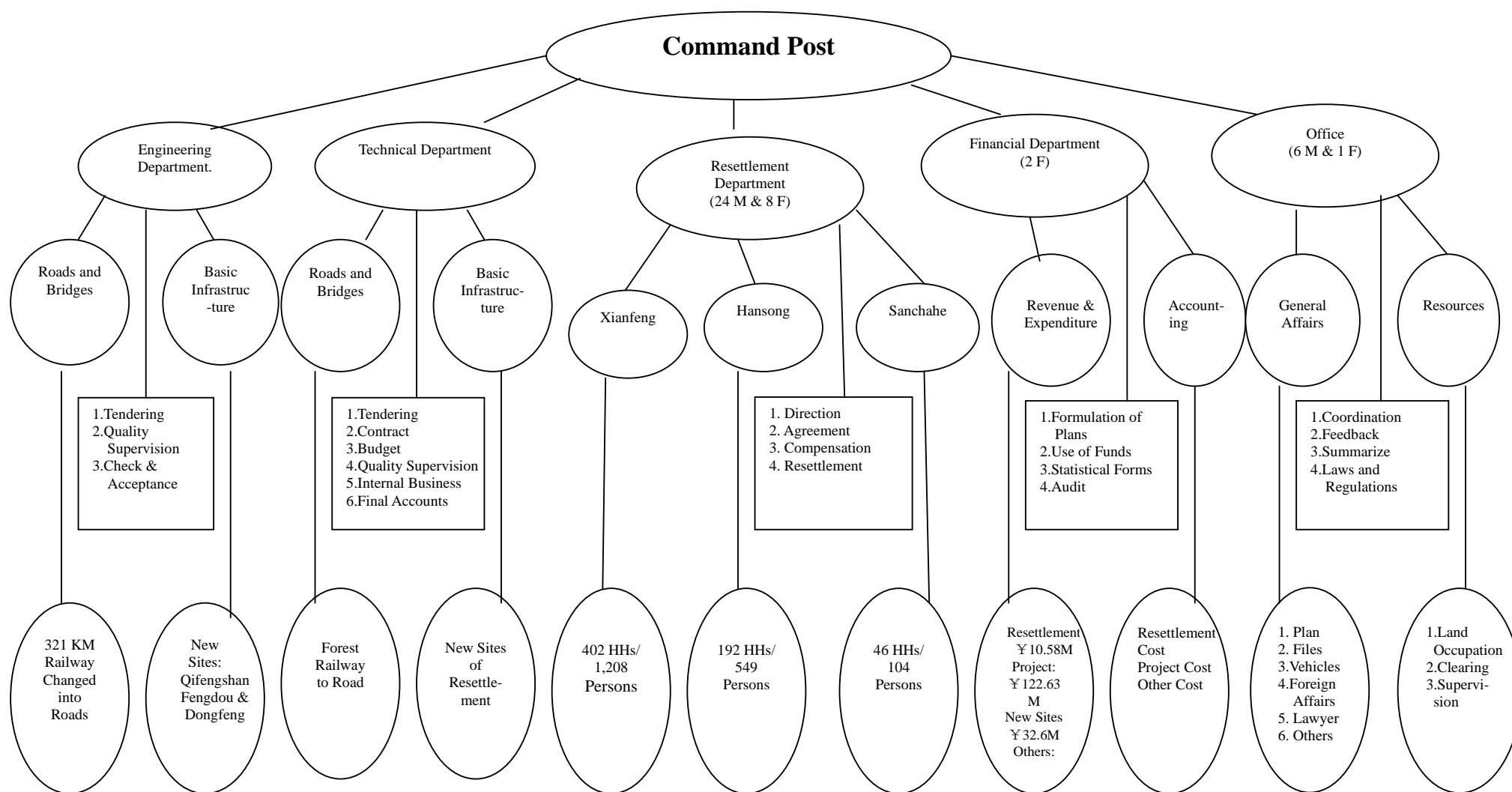
Figure 10.2 Wuchang Resettlement Management Office Organization

Figure 10.3 Organizational Chart of Shanhetun Forest Bureau Resettlement Management

The Forest Bureau has similar organizational structure. Both ROs have very comprehensive organizational arrangements for every aspect of the relocation and resettlement work. Interviews and meetings the officers from the ROs show they are effective, thoroughly familiar with the policies and procedures, as well as their own specific aspect of work. The observations during the monitoring also showed that ROs are hard working and generally efficient, although they seemed to be poorly equipped with such tools as computers and data processing software.

Besides the ROs, HWSC has engaged a domestic supervision company providing onsite full time professional supervision for the resettlement work. The supervision company provided detailed monthly reports to the RO of Wuchang city, RO of Shanhetun forest bureau, and RAP of HWSC. Each monthly report has two parts: general reports on progress, issues, solutions and on financial matters such as balance sheets, fund management, disbursement, etc. The supervision company was well qualified, providing important support to the resettlement work.

During the resettlement monitoring period, the RO of the Shanhetun Forest Bureau in association with the Resettlement Supervision Company held the training on resettlement between April 6 and 8, 2005. More than 30 persons of the resettlement working team from public security bureau, procuratorate bureau, courts, discipline investigation commission, public information department and so on. The training covered the resettlement policies, regulations, compensation methods, and financial management as well as the experiences learned and actions taken by Wuchang City during the resettlement implementation.

Between the period of February 16 to 28, 2005, the HWSC organized a resettlement study tour to the affected areas and host areas of the Three Gorge Project. Staff and officers from HWSC, RO of Wuchang city, RO of Shanhetun Forest Bureau, and resettlement supervision company. They visited massive immigration program in the Three Gorge Project, and in particular, the resettlement areas for Three Gorge immigrants in Chongqing and Shanghai. This was a successful training and study tour and was very helpful to enrich the knowledge, programs and procedures for large relocation and resettlement and life rehabilitation and restoration. **Appendix 4** summarized the results of the study tour. By learning the good experience as well as the lessons from other mega projects, such study tours help with the institutional strengthening and capacity building for the ROs, contributing to the successful completion of Mopanshan Water Supply Project relocation and resettlement. In the plan, there is another domestic study tour for other RO staff, scheduled for the second half of 2005.

11. Major Problems Encountered and Work to Be Done

11.1 Major Problems Encountered

The construction fund for the new resettlement sites of Shanhetun Forest Bureau was approved by the Provincial Water Resources Bureau and Provincial Development and Reform Commission in November of 2004 and February of 2005. The supplementary agreement was signed by the Provincial Forest and Industry Bureau in April of 2005.

According to the requirements of the agreement, the fund should be in place by 30th of April. However, due to the shortage of fund, the construction fund for the new resettlement sites has not been disbursed to the Resettlement Office of the Shanhetun Forest Bureau, which has affected the progress of the resettlement site construction. As a result, the delayed construction of the new resettlement sites has affected the progress of relocation, which in turn has affected the progress of reservoir bottom clearance and hygienic cleaning of the inundated areas.

11.2 Work to Be Done for Next Six Months

Based on the progress made and problems encountered so far, the HWSC has made the plan to complete the work for the next six months, which are as follows:

- To try as much as possible to achieve 90% of road construction for Shanhetun Forest Bureau;
- To try to complete 50% of the new resettlement site construction for the Shanhetun Forest Bureau;
- To achieve part of the resettlement work for the “resettlement under the friend and relative sponsorship”;
- To complete the resettlement work for the Sanrenban Village and Dagui Village of Wuchang City within the inundated areas;
- To complete the compensation to the APs affected by the pipeline construction due to land acquisition and relocation;
- To complete the compensation of land acquisition and relocation for the construction of fiber cable;
- To complete compensation for the urban water distribution network;
- To conduct more visits the relocated households; and,
- To assist the international resettlement specialist to complete the resettlement monitoring work.

12. Conclusion and Suggestions

12.1 General Conclusions

The Project has established an effective resettlement executing team and organizational structure in general. The resettlement organizations work effectively and staff and officers are well knowledgeable with the regulatory procedures, policies, standards, procedures as well as ADB policies and requirements on resettlement.

The relocation and resettlement progressed well for the monitoring period and as planned for the most parts. The resettlement progress in general meets the need for Project construction in all four components. The work for the monitoring period was mostly focused on the relocation, compensation, and moving. The emphasis for the work of the ROs should shift to resettlement, rehabilitation and restoration of life for the APs, as resettlement progresses further.

The compensation rates both for land acquired and buildings demolished were almost the same with that in the RAP. Where there is a difference, generally the revised rates

are higher than the original planned in the RAP, such as the land acquisition rates increased from 10 times to 13 times AAOV. The compensation disbursements for land acquire however differs in some aspects from the RAP. The new schemes were mostly based on the average conditions of all affected people and the key resettlement subsidy shift from the land based to people based. In general, the new rates and disbursement schemes appear to be fair and reasonable and well received by the APs and the flow of compensation funds for permanent land acquisition, temporary land occupation and resettlement is practicable, although continued and further monitoring is needed to ensure APs are indeed satisfied with the modified procedures and schemes in assisting them for resettlement and rehabilitation in the new area.

The compensation has been paid to affected villages and forest stations as well as households affected by the project. Vulnerable groups have been given priority in compensation and rehabilitation through employment and trainings. The proposed rehabilitation measures are being implemented. All APs who had already relocated had housing equivalent or better than their original housing and most had acquired new agricultural land and restore their production activities. Judging from the increased income, home appliance and other consumers' products owned by the resettled families from a sample survey of 30 resettled families in 2004, the livelihood of the new settlers had started to restored and improved, and the per-capita income of the surveyed households increased by an average of 32.95% over 2003 and none of the surveyed households had a decrease in per-capita income.

The original planned public consultation and information disclosure as well as the grievance procedures were followed. Detailed information on compensation and resettlement scope has been disclosed through booklet, and regular and frequent contacts with the APs. There were no major or serious complaints during the monitoring period.

12.2 Recommendations

Based on the findings of this monitoring period, the following recommendations are proposed:

- Currently, the land acquisition and relocation data is scattered at different resettlement offices without centralized data management system, and there is no compilation at the same level of details as those for the reservoir, which causes great difficulties/problems to each RO and Resettlement Monitor to keep consistent and complete data filing. Although great efforts have been put into data collection and verification during this monitoring exercise, it should be noted that this Resettlement Monitoring Report still leave some data gap to be completed and verified for next resettlement monitoring. It is suggested hat where possible, unified data collection, filing, format, classification, and presentation should be adopted across the board in all ROs and HWSC for similar or same type of information. The HWSC should keep complete and accurate data/information from each RO. This would allow better communication of the progress, sharing of the information, supervision and monitoring and help to identify gaps and problems. Unified approach would also help improve work efficiency and minimize duplications and double handling of data, and misrepresentation of data/information;

- In the last monitoring report, it has been recommended that the ROs of all levels shall be better equipped with computer and data processing and networking knowledge. All relocation, resettlement, disbursement, or other data should be computerized, instead of current practice of using hand written data. Where possible, different ROs should be connected with internet leading eventually to HWSC through which all resettlement data will be compiled and filed. If computers are provided to ROs, particularly township ROs, training should be provided to the staff and officers on software and internet application to maximize the benefits of the equipment. As there is substantial field work, lab top or notebook computers should be provided to key staff. Although this is a good recommendation, in reality it has not been realized due to the financial constrains of the HWSC and ROs. However, it is highly recommended that the ROs at different levels should keep all files in a good order and consistent manner, in particular, the RO of HWSC should have well organized central filing and management system;
- Due to very tight time schedule of preparatory work for the reservoir water storage and difficulty to make logistic arrangements by the EA and the RO of Wuchang City, the resettlement specialist could not visit the resettlement sites of Wuchang City during this monitoring. Visits were only made to the relocated households in Shanhetun Forest Bureau during this monitoring period. It is suggested that arrangement should be made for the Resettlement Monitor to visit the relocated families and investigate the livelihood and income rehabilitation activities and progress during the next monitoring period;
- No records have been kept for the women-headed and poor households. The HWSC and ROs management has been made aware of this issue and has been suggested to take particular attention and assistance to the vulnerable groups, including women-headed and poor households during the land acquisition and resettlement process. Their special needs should be identified, and considerations and measures be provided during the land acquisition and resettlement process. It is also suggested that the Project EA and IAs should give particular attention to the female's employment opportunity during the project construction phase;
- The resettlement work should place more attention on the rehabilitation and restoration as more APs start and complete the moving and relocation and start new life in the resettled areas. This means that RO officers and staff may want to make more visits to the resettled areas, listen more of the concerns and issues for restoration, prepare more programs on rehabilitation such as training, employment creation, financial or other supports for starting new production or business, experience sharing, etc.;
- The applied housing compensation rates are in a range to accommodate the detailed breakdown on housing structures, etc. The ultimate criterion for judging whether these arranges are appropriate or not is to see whether the APs who received the housing compensation are able to construct or otherwise purchase houses of the same size, same structure or standards and same functioning as the houses they lost to the Project. This would require the ROs make more visits to the APs, either already moved into new houses or have plans for the new houses. Any opinions, comments, critics or complaints on housing compensation should be carefully received and recorded. Proper responses should be provided to those concerns raised by the APs;

- The resettlement subsidy represents a significant resource for restoration of livelihood as this is a large sum of money in general. The Project adopted a new scheme of disbursement of subsidy, based on the number of people in a family. Investigation shows that the scheme works fine with the APs. However, further close monitoring should be provided to see whether this scheme provided sufficient support to the small-size families who will receive less subsidy, regardless of the land they own. The needs and opinions of the families should be well listened to ensure such scheme would not create under compensation situation for certain groups of APs;
- The Shanhetun Forest Bureau adopted the collective resettlement scheme where new and unified houses will be built and provided to the APs in new areas. This scheme was based on the average conditions of the current housing which certainly would affect a certain people who are better off than average currently. Although the new resettlement sites have not been built and relocation and moving have not started in the forest bureau, more consultation with all groups of APs in the forest bureau to ensure the scheme is accepted and satisfactory;
- There seems to be a trend of improvement in the standard of living among the people who had already moved and resettled, judging by the amount of home electronics ownerships. However, the increase of living standards need to be further examined through the annual socio-economic household survey. As a result, the Resettlement Monitor has prepared the socioeconomic household and village survey questionnaires respectively for both affected area and host area (see **Appendix 5** for the questionnaires) to request the ROs of HWSC, Wuchang City and Shanhetun Forest Bureau to carry out the survey during this monitoring period. However, this request has been declined as the ROs have no budget to conduct the survey and the resettlement officers of the ROs are tied up by the heavy workload of relocation. Taking into consideration of the financial constraints, it is suggested that the annual socioeconomic baseline survey of affected households should be carried out as early as possible to establish the benchmark to assess and evaluate the living standards of the APs before and after resettlement. The activity could be implemented by mobilizing the resettlement officers of ROs, local government officers and community representatives with training provided by the Resettlement Monitor;
- There apparently are frequent formal and informal APs meetings, discussions, and other forms of contacts by the RO officers and staffing. The details of these meetings, including but not limited to time, location, number of people attended, name of the people, subjects discussed, responses provided by the RO officers, etc. should be recorded and filed. The grievance and complaints received, no matter at which levels of ROs or how serious or no serious the issues are, the details should be recorded and filed for future review; and,
- More intensive and extensive training covering various topics should provide both the APs and host villagers before the former move to the new resettlement site, with focusing on technical training in scientific farming and livestock raising methods. The training costs should be financed timely by HWSC from the resettlement budget;

IMPLEMENTATION SCHEDULE

As of end June 2005

ACTIVITIES	2002				2003				2004				2005				2006				2007				Assigned %	Actual %	Weighted Progress %																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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IMPLEMENTATION SCHEDULE

As of end June 2005

ACTIVITIES	2002				2003				2004				2005				2006				2007				Assigned %	Actual %	Weighted Progress %
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II. Component B: Raw Water Pipeline																											
1. Land Acquisition				■	■	■	■	■																			
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IMPLEMENTATION SCHEDULE

As of end June 2005

ACTIVITIES	2002				2003				2004				2005				2006				2007				Assigned %	Actual %	Weighted Progress %																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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III. Component C: Water Treatment Plant																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	

IMPLEMENTATION SCHEDULE
As of end June 2005

ACTIVITIES	2002				2003				2004				2005				2006				2007				Assigned %	Actual %	Weighted Progress %
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
IV. Component D: Distribution System																											
1. Land Acquisition																									6.00%	100.00%	6.00%
2. Resettlement																									3.00%	100.00%	3.00%
3. Preliminary and Final Design																									1.00%	100.00%	1.00%
4. Tendering																									2.00%	100.00%	2.00%
5. Construction																									8.00%	30.00%	2.40%
6. Testing, Commissioning, and Defect Liability																									6.00%	0.00%	0.00%
Implementation Progress																											67.75%




 Plan At Appraisal
 Revised Plan
 Actual

Photo 1: LAR of Reservoir Inundation Areas



Resettlement Officers and Technicians Investigating
the Routing of Newly Built Fiber Cable



Dagui Village Situated in the Inundated Area to Be Relocated



Xianfeng Forest Station to Be Affected by Reservoir Inundation



Community TV Station of Xianfeng Forest Station to Be Relocated



Site of Demolished House in Xianfeng Forest Station



Sanrenban Village to Be Affected by Reservoir Inundation



House to Be Affected In Sanrenban Village



Site of Fully Relocated Bei Sanrenban Village for Reservoir Inundation

Photo 2: Comparison of Old and New Houses



Mr. Zhang Lucheng's Old House in Shanhetun Forest Bureau



Mr. Zhang Lucheng's New House in Shanhetun Forest Bureau



Mr. Wang Sheng's Old House in Shanhetun Forest Bureau



Mr. Wang Sheng's New House in Shanhetun Forest Bureau



Mr. Wang Jiang's Old House in Shanhetun Forest Bureau



Mr. Wang Jiang's New House in Shanhetun Forest Bureau



Mr. Wang Baocheng's Old House in Shanhetun Forest Bureau



Mr. Wang Baocheng's New House in Shanhetun Forest Bureau