

Resettlement Planning Document

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PRC: COAL MINE METHANE (CMM) DEVELOPMENT PROJECT

Part B – Gas Collection and Transmission

Prepared by Shanxi Energy CMM Company Limited (SECC)

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1. Introduction

1.1 Project Background

1. Shanxi Qinshui Coal Mine Methane (CMM) Development Project is located in Jincheng City. This city on the south of Qinshui Coal Field has a coal area of 5,350 square kilometers (km²) which accounts for 56.4% of the total area. Its estimated coal storage is 80.8 billion (t) tons, including proved reserve of 27.1 billion t which accounts for 55% of Shanxi Province and 26% of the People's Republic of China (PRC). Jincheng City is the largest anthracite coal producer of PRC and its exploitation scale reaches to 40 million t per year. It is identified that there are 173 high-coal bed methane stations in Jincheng, which is mainly distributed into Qinshui County, Qin River in Yangcheng County and Jiafeng and Runcheng County near Luwei River. The content of methane which is excavated from the mines is between 40% and 80%. At present, the percentage of CMM utilization is below 10%, and most of CMM is discharged into the atmosphere. It is estimated that the emission of 0.4 billion cubic meters of CMM per year (pure CMM) results in large resources waste and environmental pollution. Development of Qinshui CMM Development Project for residential and industrial utilization will contribute for improving of environmental quality and local living standard.

1.2 Project Description

2. Shanxi Qinshui CMM utilization project is one of the subprojects of Shanxi CMM comprehensive utilization project financed by Asian Development Bank (ADB), which is the transmission component of Part B. This is a gas collection and transmission project, its main purpose is to construct collection and transmission pipelines in order to drainage CMM from high-gas coal mines in Qinshui and others counties of Jincheng City, and then transport to Jincheng City (including Zezhou County) and Yangcheng County. Meanwhile, this project is also the pipeline gas sources of another ADB-financed CMM comprehensive utilization project (Jincheng Municipal CMM Utilization Project, the distribution component of Part B).

3. After evaluation of project by ADB in October, 2006, Shanxi Energy CMM Company Limited (SECC) proposed to adjust and optimize the project according to the actual situation. At present, the project construction after adjustment includes the following aspects:

- (i) Four Gas Collection Stations: Gaozhuang General Gas Collection Station located in Gaozhuang Village of Duanshi Town in Qinshui County, Pingshang Gas Collection Station located in Pingshang Village of Duanshi Town in Qinshui County, Duanshi Gas Collection Station located in Duanshi Village of Duanshi Town in Qinshui County and Chengzhuang Gas Collection Station located in Chengzhuang Village of Xiacun Town in Zezhou County;
- (ii) Three Gas Transmission Stations: Zhangling Gas Transmission Station in Zhangling Village of Xishangzhuang District in Jincheng City, Yangcheng Gas Transmission Station in Jiuzhuang Village of Fengcheng Town in Yangcheng County and Yangcheng Industrial Zone Gas Transmission Station in Bei'anyang Village of Fengcheng Town in Yangcheng County;
- (iii) The Total Length of the Pipeline is 67.22 kilometers (km), includes: Duanshi-Gaozhuang and Pingshang-Gaozhuang collection pipelines with total length of 5.16 km; and Gaozhuang-Lizhuang-Chengzhuang, Lizhuang-Xiazhuang-Nanpo-Bei'anyang and Nanpo-Jiuzhuang with the total length of 62.06 km medium pressure transmission pipelines together with metering and SCADA system. 17.61 km pipelines of Lizhuang-Chengzhuang section are proposed to use the temporary land acquisition, construction

detour and other basis constructions of the existing pipelines which will be built by Jincheng Anthracite Mining Group Co. Ltd to transport CMM from Western District to Eastern. The total length of pipelines from Chengzhuang to Zhangling is 19.48 km, which uses the existing CMM pipelines of Chengzhuang-Coal Gangue Power Plant that were constructed by Jincheng Anthracite Mining Group Co. Ltd, so the 19.48 km pipelines does not need to reconstruct.

Operational Type After Project Completion: To collect and transport about 0.4 billion cubic meters of CMM (CH₄ is of 40.8%) annually from four coal mines (Duanshi, Qudi, Pingshang and Chengzhuang coal mines) to Jincheng City, Yangcheng County and Yangcheng Industrial Zone. Collection and transmission pipelines passes through Duanshi, Jiafeng and Zhengcun of Qinshui County, Runcheng and Fengcheng in Yangcheng County, Xiaocun and Dadonggou of Zezhou County and Xishangzhuang District of Jincheng City with the total length of 86.7 km (including the length of 19.48 km pipelines from Chengzhuang to Zhangling).

4. Changes from previous design in October 2006 are as follow:

- (i) The location of one gas collection station changed: Chengzhuang gas collection station in Zezhou County will be constructed to instead of the original Yonghong gas collection station in Qinshui County;
- (ii) The location of one gas transmission station changed and another one gas transmission station would be constructed: The original Jincheng gas transmission station located in Gaojiang of Xishangzhuang District of Jincheng City will be moved to Zhangling Village which is on the northeast of Gaojiang. The original Zezhou gas transmission station located in Beixi Village of Nancun Town in Zezhou County will be rebuilt.
- (iii) The new route and length of pipelines have some changes: The original gas transmission pipelines "Xiazhuang-Hetao'ao-Gaojiang (Jincheng gas transmission station) and Hetao'ao-Beixi (Zezhou gas transmission station) will be rebuilt to "Lizhuang-Chengzhuang". And the total length of pipelines will be adjusted from 83.69 km to 67.22 km.
- (iv) Occupation area of individual gas collection station and storage station has some changes: The total land occupation area of gas collection and transmission station decreased 780 square meters (m²).

5. The length and diameter of present pipelines are listed in Table 1.1. Quantities and capacities of gas collection, transmission stations and dispatching center can be seen in Table 1.2. Process chart can be seen in Table 1.

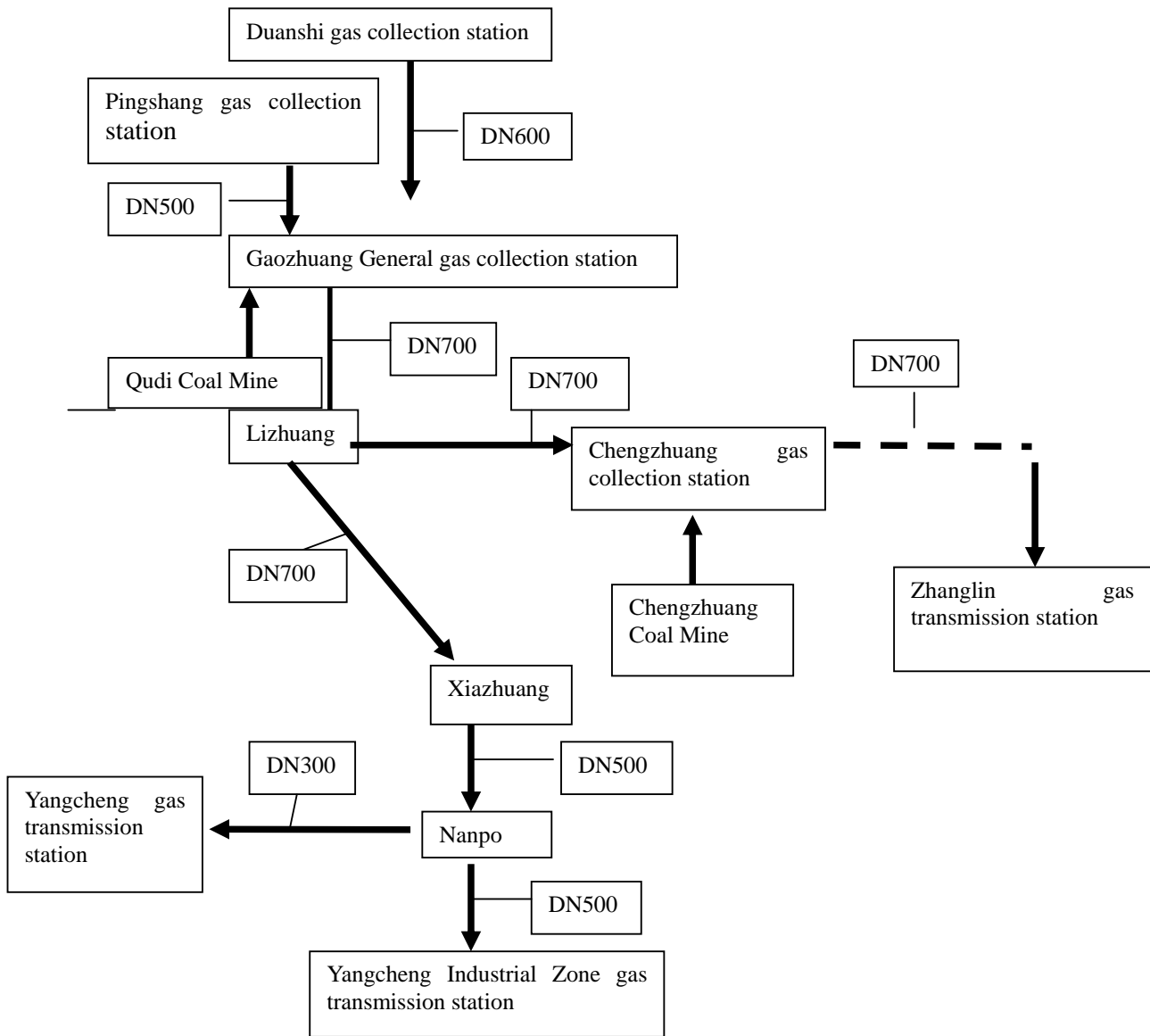
Table 1.1: Length and Diameter of Transmission Pipelines of Shanxi Qinshui CMM Development Project

No.	Section	Length (km)	Diameter(mm)	Notes
1	Duanshi-Gaozhuang	2.98	DN600	Gas collection pipeline
2	Pingshang-Gaozhuang	2.18		
3	Gaozhuang-Lizhuang	7.46	DN700	Gas transmission pipeline
4	Lizhuang-Chengzhuang	17.6		
5	Lizhuang-Xiazhuang	16.7		
6	Xiazhuang-Nanpo	8.58		
7	Nanpo-Bei'anyang	2.28		
8	Nanpo-Jiuzhuang	9.40		
	Subtotal	67.22		
9	Chengzhuang-Zhangling (already completion)	19.48	DN700	Gas transmission pipeline
	Total	86.70		

Table 2: Quantities and Capacities of Gas Collection Station, Gas Transmission Station and Dispatching Center

No.	Location Name	Land Acquisition (m ²)	Gas Storage and Supplying Capacity
1	Gaozhuang general gas collection station	30,800	60,000 m ³ of gas storage capacity, 43,401 m ³ /h of supplying capacity
2	Duanshi gas collection station	12,733	30,000 m ³ of gas storage capacity, 28,055 m ³ /h of supplying capacity
3	Pingshang gas collection station	10,000	20,000 m ³ of gas storage capacity, 15,700 m ³ /h of supplying capacity
4	Chengzhuang gas collection station	10,020	4,3000 m ³ /h of supplying capacity
5	Zhangling gas transmission station	4,500	12,911.91×10 ⁴ m ³ /a of supplying capacity
6	Yangcheng gas transmission station	1,360	1,591.75×10 ⁴ m ³ /a of supplying capacity
7	Yangcheng Industrial Zone gas transmission station	1,500	16,952.94×10 ⁴ m ³ /a of supplying capacity
8	Dispatching Center	2,500(Building Area)	Data Collecting and Monitoring

Table 1: Gas Collection and Transmission System Process Chart of Shanxi Qinshui CMM Development Project



1.3 Socio-economic Performance of the Project

6. CMM development and utilization cannot only change energy structure, adjust industrial structure, decrease environmental pollution and coal mines accidents, but also it can save energy, develop local economy, provide employment opportunities and benefit from socio-economic performance and environmental performance remarkably.

- (i) Changing Energy Structure, Adjusting Industrial Structure and Protecting Air Environment. High-strength coal exploitation in Shanxi for many years results in serious environmental pollution, resource waste and ecological damage, which threatens the socio-economic sustainable development of Shanxi. CMM is the ascendant resource of Shanxi. To develop it, on the one hand, can increase clean energy, improve energy structure and protect air environment; on the other hand, it can be used to provide a series of chemical products of

high-technical implications and added values, such that a new backbone industry is established to promote the development of other relevant industries and to speed up the adjustment of industrial structures and the updating of products. Meanwhile, it has a large impact on changing energy structure and environmental improvement in the future.

- (ii) Saving Resources and Decreasing Environmental Pollution. Economic structure of Jincheng City belongs to a typical resource economy with serious pollution. After implementation of the Project, CMM, instead of a coal consumption of 316,000 tons per year, can save a standard coal of 39,500 tons and reduce sulfur dioxide emission amount by 2,100 t and dust discharge by 7,047 t. Details can be seen in Table 1.3.

Table 1.3: Environmental Performance of Shan Qinshui CMM Development Project

No	Name	Unit	Quantities	Notes
1	Volume of instated coal consumption per year	10,000 tons	31.6	Accounting on the basis of standard coal
2	Volume of saved coal per year	10,000 tons	3.95	Accounting on the basis of increased part of thermal efficiency
3	Reduced discharge of sulfur dioxide	Ton/year	2100	
4	Reduced discharge of dust	Ton/year	7047	
5	Reduced discharge of clicker	10,000 tons/year	3	
6	Reduced transportation volume per year	10,000tons /kilometer /year	346	

- (iii) Increasing Coal Mines' Income. CMM utilization of this Project is collected from state or local coal mines in relevant counties during coal exploitation, these cannot only add coal mines' profit, but it can also increase the employees' income of the coal mine to a certain extent.
- (iv) Improving Residents' Health. After implementation of the Project, the total production of emission reductions (ERs) during the first 5 years of the project (2007–2012) is projected to be 75 million t of carbon dioxide equivalent, which can improve the air, living environment, sanitary conditions and health of local residents.
- (v) Decreasing Household work, Especially for Vulnerable Families and Women. After installation of CMM pipelines, housework will be largely decreased, especially housework of vulnerable families and women, this can bring convenience to their lives and increase their quality of life.

1.4 Project Land Acquisition and Resettlement Impacts

7. Land acquisition and resettlement of Shanxi Qinshui CMM Development Project involves within 1 district, 3 counties, 5 towns, 1 street and 33 villages of Jincheng City. Though there is a large amount of affected village, most of the villages (26 villages) are only temporarily affected on the limited cultivated land by paving the pipelines. Normally, it needs 6 months. In other words, Project will involve with limited permanent land acquisition and some temporary land acquisition and has no impact on houses and facilities.

8. The construction of four gas collection stations and three gas transmission stations needs a permanent land acquisition of 7.09 hectares of land area (106.37 mu), including dry land of 85.5 mu, unused land of 18.62 mu and constructed land of 2.25 mu and will involve with 7 villages, 54 households and 213 persons.

9. The construction of gas collection and transmission pipelines needs temporary land occupation. Within the total length of 86.70 km pipeline, including, the length of 19.48 km pipeline from Chengzhuang to Zhangling have been built up so that no temporary land acquisition will be needed; 17.61 km pipeline of Lizhuang-Chengzhuang section are proposed to use the temporary land acquisition, construction detour and other basis constructions of the existing pipelines which will be building up by Jincheng Anthracite Mining Group Co. Ltd to transport CMM from Western District to Eastern. So there is no new temporary land acquisition involved in the project. In other words, only 49.61 m pipeline need temporary land acquisition, which requires with 1,216.6 mu temporary land occupation, including dry land of 655.3 mu, unused land of 524.7 mu, rural road of 3.6 mu and rural asphalt roads of 33 mu. A total of 752 residents, 204 households, and 33 villages under 9 townships (streets) will be affected temporarily. But there is no demolition of private house or public infrastructure.

10. Compared with the project before adjustment in October 2006, activities impacted by the project have some changes: 3 permanently and temporarily affected townships (streets) decreased; one permanently affected village decreased, and the permanent land acquisition decreased by 1.17 mu; 19 temporarily affected villages decreased and the affected land occupation decreased by 666.4 mu. And the affected persons decreased by 373. Details are listed in Table 1.4.

Table 1.4: Changeable Profile of Project Impact Content

Project	Towns (streets)	Village		Land acquisition (mu)		Persons			
		Permanent	Temporary	Permanent land acquisition	Temporary land occupation	Permanent		Temporary	
						HH	P	HH	P
After adjustment	6	7	33	106.37	1,216.6	54	213	204	752
Before adjustment	9	8	52	107.54	1,883	59	231	309	1,125
Decreased impact amount	3	1	19	1.17	666.4	5	18	105	373

1.5 Preparation and Basis of RAP

11. Due to the part of farmland for permanent and temporary land acquisition of the project, a Resettlement Action Plan (RAP) has been prepared and developed by SECC in line with the requirements of ADB Policy and relevant laws, regulations and guidelines issued by the PRC. The RAP is completed on the basis of the following information sources, including:

- (i) Relevant project reports, particularly the project feasibility study report and adjustment plan,
- (ii) Detailed survey of land acquisition and resettlement impacts,
- (iii) Socio-economic survey,
- (iv) Materials provided by Local Land and Resources Bureau,
- (v) Consultations with related local governments officials, village leaders and related individuals.

1.6 Project Design, Examination and Plan Schedule

12. Design Unit of the Project is North China Municipal Engineering Design and Research Institute. Preliminary design has been finished on 30 December 2005 and passed the examination of experts organized by Shanxi Provincial Development & Reform Commission (SPDRC) on 4 January 2006. SPDRC approved the project with the No. [2006] 733 Document on 31 October 2006. In 2007, SECC proposed to change the gas sources and pipelines of the original preliminary design according to the gas sources of the coal mines, CMM actual development and CMM project of Jincheng Anthracite Mining Group Co. Ltd which transport CMM gas from western to eastern districts. North China Municipal Engineering Design and Research Institute were consigned to optimize and adjust the design and completed it in August 2007. On 12 October 2007, SPDRC organized the experts to evaluate, and the approval work is estimated to be completed at the beginning of November 2007.

13. Civil works of the project is proposed to start in May 2007. Construction of Gaozhuang General gas collection station, Duanshi gas collection station, Chengzhuang gas collection station, Zhangling gas transmission station, Yangcheng gas transmission station and Yangcheng Industrial Zone gas transmission station; paying of pipelines; completion of dispatching center; and installation and testing of SCADA system are expected to test run in December 2008.

2. Natural Socio-Economic Introduction in Affected Areas

14. Shanxi Qinshui CMM Development Project involves 4 counties (Qinshui, Yangcheng, Zezhou and Chengqu); 6 towns (streets); and 33 administrative villages of Jincheng City.

2.1 Introduction of Shanxi Province

15. At the end of year 2005, the total population of Shanxi Province reached to 33.5521 million, including 14.1281 million urban people and 19.424 million rural people. The total output value of Shanxi Province is CNY412.12 billion; the financial gross income is CNY 75.79 billion. And the average income for each urban resident in the city is CNY8,913.9 per year, while the net income for rural one is CNY2,890.7.

16. There are 11 municipalities under the provincial authorities in Shanxi such as Taiyuan, Datong, Yangquan, Changzhi, Jincheng, Suozhou, Xinzhou, Jinzhong, Linfen, Yuncheng and Luliang. And in total, it has 119 counties, cities and municipal districts and its provincial capital is Taiyuan.

2.2 Introduction of Jincheng City

17. Jincheng City is located on the southeast of Shanxi Province. In 2005, its gross domestic production reached CNY31.597 billion and the financial gross income is up to CNY6.167 billion. Its total population is 2.2054 million. Income of urban residents is CNY8,911.05 per person and the farmers' net income is CNY3,593.07 per capita. Now, Jincheng City dominates Chengqu, Gaoping City, four counties (Zezhou, Yangcheng, Lingchuan and Qinshui County), 74 townships, 10 sub-district offices, 54 urban commissions and 2,432 administrative villages.

18. In 2005, 93,526 people are poverty population, including 14,279 of urban living poverty households within 31,317 persons, 23,668 of rural living poverty households within 44,653 of poverty persons and 5,032 rural persons enjoying five guarantees. Details are in Table 2.1.

Table 2.1: Poverty Population Statistic of Jincheng City

Distributed County	Urban Lowest Guarantees		Rural Lowest Guarantees		Rural Five Guarantees		Total	Urban LG standard	Rural LG Standard	Rural Five Guarantees Standard
	HH	P	HH	P	HH	P	P	¥/M/P	¥/M/P	¥/M/P
Chengqu	3,598	10,048	623	1,890		72	12,010	201	840	1,000
Zezhou	1,819	2,638	5,220	6,176		610	9,424	185	960	1,000
Gaoping	2,796	5,821	5,052	13,250		1,091	20,162	188	800	1,000
Yangcheng	1,631	4,628	3,261	7,324		1,022	12,974	188	800	1,000
Lingchuan	2,824	4,680	3,881	9,132		1,576	28,362	175	670	1,000
Qinshui	1,611	3,502	5,631	6,881		661	10,594	175	720	1,000
Total	14,279	31,317	23,668	44,653		5,032	93,526			1,000

HH = household, P = population.

2.3 Introduction of Relevant Counties

19. Qinshui County has a total area of 2676.6 km² and lies on the southeast of Shanxi Province. It locks into Taihang, Taiyue and Zhongtiao Mountains, with Yicheng County to its west; Gaoping City and Zezhou County to its east; Fushan, Anze and Zhangzi County to its north; and Yuanqu and Yangcheng County to its south. Its total population is 0.21 million and it dominates 7 towns, 7 countryside, 239 administrative villages, 9 residents' committee and 1,378 villagers teams. In 2004, its gross domestic production is CNY1.85 billion, financial profit is CNY0.355 billion and net income per farmer is CNY2,591. There is a total farmland area of 449,000 mu in Qinshui County, including 66,600 mu irrigated field and 382,300 mu dry land. Grain crops are mainly wheat, corn and millet. Cash crops mainly include cotton, sesame and peanut. Qinshui County is rich in mineral resources and it has witnessed rapid industrial development by taking advantage of its physical conditions over the recent years. Industrial development is largely based on heavy resources, with coal, metallurgy and foundry industries accounting for the larger half of the gross industrial output value. The industrial structure is predominated by middle and small-sized township enterprises, which contribute more than 90% to the gross output value of the whole county.

20. Yangcheng County with a total area of 1,930.7 km² is located on the east of Zezhou County, on the south of Jiyuan of Henan Province, on the west of Yuanqu and Qinshui County, on the north of Qinshui County. Its total population is 0.40 million and it dominates 9 towns, 8 countryside, 1 subdistrict office and 474 administrative villages. In 2004, GDP of the whole county is CNY4.028 billion and net income per farmer is CNY2,839. It had a total farmland area of 566,000 mu. Grain crops are mainly wheat, corn, millet and beans, and cash crops mainly include cotton and peanut. Yangcheng Industry is developed and its gross industrial output value accounts for more than two-thirds of the GDP. Industrial activities are mostly distributed in heavy industries such as coal mining, power and iron making.

21. Zezhou County with total area of 2,023 km² is bounded on the east by Lingchuan County, on the west by Yangcheng and Qinshui County, on the south by Jiyuan, Qinyang, Bo'ai and Jiaozuo, on the north by Gaoping City. Its total population is 0.52 million of which 86% are farmers and it dominates 14 towns, 3 countryside and 633 administrative villages. It has cultivated a land area of 724,000 mu and crop land area of 582,000 mu. Cultivated land area per capita is 1.5 mu. The GDP of the total county is CNY5.75 billion in 2004 and financial profit is CNY0.552 billion. The farmers' net income per person is CNY3,848. Industrial activities are mostly distributed in heavy industries such as coal, metallurgy, chemistry, machinery, building material and power, but predominantly coal mining and iron making.

22. Chengqu of Jincheng City with the total area of 149.6 km² lies in the center of Taihang Mountain which is on the southeast of Shanxi Province. Its total population is 297,700. It is the political, economic and cultural center of Jincheng and dominates 1 town, 7 subdistrict

offices and 168 village's commissions. GDP of the city is CNY1.999 billion in 2004 and net income of per farmer is CNY3,382. Industrial structure has been changed from the single heavy industry such as coal and iron and resources economy into new structure which mainly based on services line and many other lines.

2.4 Introduction of Relevant Towns (Streets)

23. The project affected Duanshi, Jiafeng and Zhengcun Town in Qinshui County, Runcheng and Fengcheng Town in Yangcheng County, Xiacun in Zezhou County and Xishangzhuang District Office of Chengqu in Jincheng City. Total 6 towns (streets) in 4 Counties will be affected by the project.

24. Due to the changes of gas collection and transmission stations and pipeline routes, the affected towns also changed. The original affected towns (Beiliu of Yangcheng County, Zhoucun, Nancun and Chuandi of Zezhou County) have been deleted, but Xiacun of Zezhou County has been increased. Detailed changes can be seen in Table 2.2.

Table 2.2 Changes of Affected Towns after Adjustment

No	Affected towns identified after adjustment	Affected towns before adjustment
1	Duanshi Town of Qinshui County	Duanshi Town of Qinshui County
2	Jiafeng Town of Qinshui County	Jiafeng Town of Qinshui County
3	Runcheng Town of Yangcheng County	Runcheng Town of Yangcheng County
4	Fengcheng Town of Yangcheng County	Fengcheng Town of Yangcheng County
5	Xiacun Town of Zezhou County	Beiliu Town of Yangcheng County
6	Xishangzhuang District Office of Chengqu in Jincheng City	Zhoucun Town of Zezhou County
7		Chuandi Town of Zezhou County
8		Nancun Town of Zezhou County
9		Xishangzhuang District Office of Chengqu in Jincheng City

25. Jiafeng township is a concentration of industry in Qinshui County, with Yonghong, Yong'an and Sihe coalmines, Jiafeng Power Plant, and Wu'an Hydropower Station, etc. Fengcheng town in Yangcheng County is abundant in coal, iron, sulphur, coal gangue and other mineral resources. Industries here mainly include electricity, iron making, foundry, machinery, cement, ceramics, textile and food processing. There are 52 households with 210 persons of ethnic minority in Dongguan, and 47 households with 190 persons in Nangan. Dadong'gou is one important town in Zezhou County which has more industrial and enterprise distributions. Detailed socio-economic profile of each township can be seen in Table 2.3. Status of living poverty persons is in Table 2.4.

**Table 2.3: Socio-Economic Profile of
6 Towns (District) for Shanxi Qinshui CMM Development Project**

Town Name	Population	Household	Ethnic Minority	Land Area (km ²)	Cultivated Land Area (mu)	Net income of per capita (CNY)	GDP (billion CNY)		
							Total	Industrial	Agriculture
Duanshi	20,519	6,782	None	257	39,310.3	3,056	2.80	1.30	1.49
Jiafeng	19,908	6,341	None	65.2	23,705	4,028	7.54	5.79	1.76
Runcheng	32,600	10,184	Less	20.6	38,041.6	4,232	8.23	7.76	0.46
Fengcheng	102,983	38,089	Have	101.1	56,499.1	3,216	6.93	6.29	0.64
Xiacun	38,911	12,970	None	94.86	21,000	4,340	9	2	7
Xishangzhuang District Office	19,511	5,987	Less	43.7	14,503	4,034	7.95	7.37	0.58

CNY = yuan, GDP = gross domestic product, km² = square kilometer,

Table 2.4: Poverty Persons Statistic along Pipelines for Shanxi Qinshui CMM Development Project

Distributed Township	Urban Lowest Guarantees		Rural Lowest Guarantees		Rural Five Guarantees		Total	Urban standard	Rural Standard	Five Guarantees Standard
	HH	P	HH	P	HH	P				
Xishangzhuang	184	423	170	515	23	23	961	201	70	83
Xiacun			89	267	7	7	274	165	80	100
Fengcheng	1,631	4,628	624	1,440	159	159	6,227	188	67	83
Runcheng	—	—	52	112	20	20	132	188	67	83
Jiafeng	67	196	192	416	30	30	642	175	60	83
Duanshi	231	673	938	958	64	68	1,699	175	60	83
Total	2,113	5,920	2,065	3,708	303	307	9,935			

CNY = yuan, HH = household, P = population.

2.5 Profiles of Relevant Villages

2.5.1 Relevant Villages for Permanent Land Acquisition

26. There are a total of seven villages that were affected by permanent land acquisition for this project, including Duanshi, Gaozhuang and Pingshang Village of Duanshi Town in Qinshui County, Bei'anyang and Jiuzhuang of Fengcheng Town in Yangcheng County, Chengzhuang Village of Xiacun Town in Zezhou County and Zhangling Village of Xishangzhuang District Office of Chengqu in Jincheng City. Compared with the design before adjustment, Jiafeng of Qinshui County, Beixi of Zezhou County and Gaojiang of Xishangzhuang District Office have been deleted, but Chengzhuang of Zezhou County and Zhangling of Xishangzhuang District Office have been added.

Table 2.5: Changes of Affected Villages after Adjustment

No	Affected Villages After Adjustment	Affected Villages Before Adjustment
1	Duanshi Village of Duanshi Town	Duanshi Village of Duanshi Town
2	Gaozhuang Village of Duanshi Town	Gaozhuang Village of Duanshi Town
3	Pingshang Village of Duanshi Town	Pingshang Village of Duanshi Town
4	Bei'anyang Village of Fengcheng Town	Jiafeng Village of Jiafeng Town
5	Jiuzhuang Village of Fengcheng Town	Bei'anyang Village of Fengcheng Town
6	Chengzhuang Village of Xiacun Town	Jiuzhuang Village of Fengcheng Town
7	Zhangling Village of Xishangzhuang District Office	Beixi Village of Nancun Town
8		Gaojiang of Xishangzhuang District Office

27. According to the survey of Local Department of SECC, in the affected villages for permanent land acquisition, there are certain differences between each village's economy development and residential income levels. Duanshi, Bei'anyang and Jiuzhuang have developed industry, which account for industrial and agricultural output value more than 90%. Industrial and agricultural output value of Gaozhuang accounts for half and half separately. Economy of Pingshang, Chengzhuang and Zhangling singly relies on agriculture as its economy backbone. About the villagers' income, Bei'anyang's is higher, Duanshi, Pingshang, Jiuzhuang and Gaozhuang's are medium, Chengzhuang and Zhangling's are lower. Details are in Table 2.6.

Table 2.6: Socio-Economic Profile of Permanent Land Acquisition Villages for Shanxi Qinshui CMM Development Project

No	Villages	Population	No. of households	Farmland area (mu)	Net income of per capita (CNY/Year)	GDP(CNY10,000)		
						Total	Industry	Agriculture
1	Duanshi	4,108	1,715	3,386	3,376	3,780	3,600	180
2	Gaozhuang	1,180	380	1,786	3,280	168	68	100
3	Pingshang	872	249	1,002	3,475	60		60
4	Bei'anyang	1,981	698	2,062.9	4,059	10,000	9,880	120
5	Jiuzhuang	1,118	452	1,004.4	3,417	770	700	70
6	Chengzhuang	1,500	385	1,151	3,000	60		
7	Zhangling	1,380	388	1,100	2,900	50		50

CNY = yuan, GDP = gross domestic product.

28. In the seven affected villages for permanent land acquisition, there are large differences within the employment structure of each village. Generally, except agriculture, the main trades of the seven villages are industry, industrial services, transportation, building industry and entertainment industry. Villages which agricultural labour account for more than 50% are Pingshang and Chengzhuang. Most labours of Bei'anyang are engaged in industry, which accounts for 50%; an industrial labour of Zhangling comes in next with 35.7%. Duanshi Labour is mostly engaged in industrial services with 23.26%, Gaozhuang comes in second with 12.5%. The labour of Gaozhuang is largely engaged in transportation with 14.38% while most of Jiuzhuang labour is engaged in the building industry with 36.26%. Less labour is engaged in the entertainment industry in each village. Gaozhuang is the highest with only 3.13%. Table 2.7 lists the employment structure of the seven villages.

**Table 2.7 Employment Structures of Affected Villages for
Permanent Land Acquisition for Shanxi Qinshui CMM Development Project**

No	Villages	Total	Agriculture	Industry	Industrial Services	Transportation	Building Industry	Entertainment Industry
1	Duanshi	2,580	1,000	650	600	120	150	60
2	Gaozhuang	320	120	72	40	46	32	10
3	Pingshang	942	892	30		20		
4	Bei'anyang	1,200	300	600	120	80	80	20
5	Jiuzhuang	513	240		47	40	186	
6	Chengzhuang	810	550	200	30	10	20	
7	Zhangling	700	330	250	90	20	10	

2.5.2 Relevant Villages for Temporary Land Acquisition

29. Laying pipelines need temporary land acquisition for 6 months. Temporary land acquisition for 49.61 km pipeline involves 2 counties, 4 townships and 33 villages. Basic socio-economic profile of each village can be seen in Table 2.8.

**Table 2.8 Profile of Affected Villages for Temporary
Land Acquisition for Shanxi Qinshui CMM Development Project.**

No.	Villages	Population	No of households	Farmland Area (mu)	Per Capita Income (CNY/Y)	Distance from Pipeline and Station (km)
1	Duanshi	4,108	1,715	3,386	3,376	0.08
2	Gaozhuang	1,180	380	1,786	3,280	0.03
3	Pingshang	872	249	1,002	3,475	0.25
4	Douzhuang	1,209	394	1,338	3,350	0.13
5	Guobei	640	188	376	3,438	0.02
6	Wohuzhuang	524	152	688	4,100	0.01
7	Lizhuang	1,028	282	733	4,047	0.05
8	Panzhuang	1,665	538	1,960	3,800	0.003
9	Yingzhuang	885	280	85	4,900	0.04
10	Jiafeng	2,559	826	1,282	5,006	0.003
11	Wu'an	1,208	408	1,260	5,157	0.01
12	Tuncheng	1,036	298	1,576.8	4,450	0.08
13	Wangchuang	1,167	340	1,307.7	4,379	0.0
14	Shangfu	960	300	728	4,415	0.02
15	Zhongzhuang	645	193	974.4	4,365	0.17
16	Xiazhuang	999	300	1,079.2	4,374	0.15
17	Beiyin	270	80	213	3,012	0.2
18	Xiaozhanggou	630	183	830	2,891	0.3
19	Gouxu	594	178	585	4,404	0.1
20	Nanwan	580	157	480	2,875	0.2
21	Houtan	340	142	185.7	3,408	0.5
22	Weiyuanguo	875	284	1,013	3,104	0.31
23	Xuejialing	278	108	692.8	3,381	0.45
24	Xiakong	1,750	544	774	4,416	0.23
25	Bajiakou	9,432	3,141	7,003.5	4,580	0.13
26	Bei'anyang	1,981	698	2,062.9	4,059	0.5
27	Shangkong	1,832	640	1,264.5	4,648	0.26
28	Jiaojiazhuang	451	180	842	3,584	0.32
29	Yanggaoquan	1,446	558	1,188	3,746	0.68
30	Chishangzhuang	1,506	499	1,242	3,451	0.51
31	Xiaogouzhuang	482	152	542	2,916	0.35
32	Zhaozhuang	716	243	882.4	3,324	0.2
33	Jiuzhuang	1,118	452	1,004.4	3,417	0.43

CNY =yuan, km = kilometer, Y =year.

2.6 Production and Living Profiles of Sample Households

2.6.1 Household Selection

30. In order to roundly know the economy of the affected households by the Project construction, in September 2006, SECC's staff selected a sample of 35 households (accounting for 59.3% of the permanently acquired households) in random, which are affected persons of permanent land acquisition from five villages such as Duanshi, Gaozhuang, Pingshang, Jiafeng, and Jiuzhuang. (Within the eight affected villages of permanent land acquisition, 5 villages are affected persons). The sample covers all villages with permanent land acquisition affected by the Project, which is representative and typical so that it can be the basis of the project impact analysis.

31. Among the 35 sample households, 16 households are from Gaozhuang accounting for 76.2% of its total affected families, 6 households from Duanshi accounting for 46.15% of its total affected families, 4 households from Pingshang accounting for 57.1% of its total affected families, 7 households from Jiafeng accounting for 43.8% of its total affected families (Jiafeng was not affected any more after adjustment) and two households are the whole affected families in Jiuzhuang.

32. After evaluation by ADB in October 2006, the Project has been adjusted partly and the design changed. The original gas collection station located in Jiafeng of Qinshui proposed to be rebuilt in Chengzhuang of Zezhou County, and Gaojiang gas transmission station of Xishangzhuang District Office proposed to be rebuilt in Zhangling of Xishangzhuang District Office. In October 2007, SECC's staff conducted a supplementary investigation for the 11 affected households with permanent land acquisition from the new stations of Chengzhuang and Zhangling. Four affected households are from Chengzhuang and seven are from Zhanglin. Both of them are the all affected households of the two villages.

2.6.2 Investigation Result and Analysis

33. All of the 35 investigated households in 2006 are Han Minority with 2 to 6 members per household, with an average of 3.2. Table 2.9 lists the householder and basis background of the 35 affected families.

Table 2.9 Householders and Basis Backgrounds of the 35 Affected Families

No	Name of HH	Villages	Sex	Minority	No. of Members	Net Income per HH (Yuan)	Net Income per capita (Yuan)
1	Zhao Xintai	Jiuzhuang	Male	Han		6,000	2,000
2	Song Haishun	Jiuzhuang	Male	Han	3	8,000	2,667
3	Cheng Minglai	Jiafeng	Male	Han	3	11,000	3,667
4	Li Yongzhong	Jiafeng	Male	Han	4	12,000	3,000
5	Li Xuegai	Jiafeng	Female	Han	4	13,000	3,250
6	Zhang Zhanliang	Jiafeng	Male	Han	3	10,000	3,333
7	Li Tuanzheng	Jiafeng	Male	Han	2	10,000	5,000
8	Pan Manku	Jiafeng	Male	Han	3	5,600	1,867
9	Pan Guocai	Jiafeng	Male	Han	2	5,000	2,500
10	Wang Yunxia	Duanshi	Female	Han	6	24,000	4,000
11	Li Yanhe	Duanshi	Male	Han	4	16,000	4,000
12	Dou Baoshan	Duanshi	Male	Han	3	7,000	2,333
13	Yu Huoqi	Duanshi	Male	Han	5	12,000	2,400
14	Ren Benli	Duanshi	Male	Han	3	8,000	2,667
15	Jia Guoliang	Duanshi	Male	Han	4	3,000	750
16	Mao Mingtai	Pingshang	Male	Han	3	7,000	2,333
17	Liu Jingniu	Pingshang	Male	Han	4	8,000	2,000
18	Liu Wanghu	Pingshang	Male	Han	3	5,000	1,667

No	Name of HH	Villages	Sex	Minority	No. of Members	Net Income per HH (Yuan)	Net Income per capita (Yuan)
19	Liu Ziquan	Pingshang	Male	Han	2	2,000	1,000
20	Guo Shufu	Gaozhuang	Male	Han	4	5,100	1,275
21	Wang Fuqiang	Gaozhuang	Male	Han	2	12000	6000
22	Wang Zhongyi	Gaozhuang	Male	Han	2	6,000	3,000
23	Zhang Yilin	Gaozhuang	Male	Han	2	3,000	1500
24	Liu Heyu	Gaozhuang	Male	Han	4	4,000	1,000
25	Shao Jianjian	Gaozhuang	Male	Han	4	16,000	4,000
26	Shao Liuxu	Gaozhuang	Male	Han	3	5,000	1,667
27	Shao Youxu	Gaozhuang	Male	Han	3	10,000	3,333
28	Liu Manfu	Gaozhuang	Male	Han	2	10,000	5,000
29	Zhang Shizhong	Gaozhuang	Male	Han	2	2,000	1,000
30	Liu Guozhan	Gaozhuang	Male	Han	4	3,700	925
31	Liu Shouzh	Gaozhuang	Male	Han	2	2,000	1,000
32	Liu Tianzhu	Gaozhuang	Male	Han	3	8,000	2,667
33	Tian Jiachang	Gaozhuang	Male	Han	4	12,000	3,000
34	Liu Fudong	Gaozhuang	Male	Han	3	10,000	3,333
35	Yuan Hutai	Gaozhuang	Male	Han	4	14,500	3,625

HH = household.

34. Among the 35 household, 94.3% are male and 5.7% are female. The average age of them is 48.7 years old, which ranges from 32 to 70. As for marital status of the households, all of them are married. As for the education of the total interviewed persons, 1 of them finished primary school with 2.9%; 24 of them completed middle school with 68.6%; and 9 of them completed high school with 25.7%.

35. Among the total 112 individuals in 35 sample households, there are 79 labors. 90.9% persons are farmers. The average annual net income per capita stood at CNY2, 588 in 2005. The lowest was CNY750 and the highest was CNY5, 000.

36. In the supplementary investigation of October 2007 for the 11 affected households, all of the householders are male with average age of 43 years old. As for marital status of the householders, all of them are married. As for the education of the total interviewed persons, nine of them finished middle school with 81.82%; two of them completed high school with 18.18%. All of the 11 households are Han Minority with 3 to 5 members per household, in the average of 4.09. Table 2.10 lists the householders and basis background of the 11 affected families.

Table 2.10 Householders and Basis Backgrounds of the 11 Affected Families

No	Name of HH	Villages	Sex	Minority	No. of Members	Net Income per HH (CNY)	Net income per Capital(CNY)
1	Yang Shihui	Chengzhuang	Male	Han	4	9,000	2,250
2	Li Renshan	Chengzhuang	Male	Han	4	10,000	2,500
3	Wang Jinrong	Chengzhuang	Male	Han	4	14,600	3,650
4	Zhang Dahui	Chengzhuang	Male	Han	5	13,500	2,700
5	Li Xinshe	Zhangling	Male	Han	3	7,500	2,500
6	Huang Tianfu	Zhangling	Male	Han	3	7,800	2,600
7	Qin Qianjin	Zhangling	Male	Han	4	12,000	3,000
8	Yuan Jun'an	Zhangling	Male	Han	5	17,000	3,400
9	Wang Changhe	Zhangling	Male	Han	5	14,000	2,800
10	Yuan Lianbao	Zhangling	Male	Han	4	15,000	3,750
11	Ding Liuping	Zhangling	Male	Han	4	14,500	3,625

37. Among the 45 persons in the 11 affected households, there are total 25 labors. All of them are engaged in agricultural production. The average annual net income per capita stood at CNY2,998 in 2006. The lowest was CNY2,250 and the highest was CNY3,750.

2.7 Women's Position in Affected Area

38. During the socio-economic survey by SECC staff, they paid special attention on women's position in the affected areas and organized four women focus group discussions, including all women who are older than 18 years old and have achieved different education. In addition, they went to the families so as to know the women's position in their families and the participation extent they took part into the social matters.

- (i) Women's position in their families has been improved increasingly, gender equality. In the affected area, men and women divided the work on agricultural production and housework. Generally, men are responsible for the agriculture and women are mainly responsible for the housework. But if there is so much work to do on the farm, women should share in the agricultural work, of course, men should help women to do housework. Because more men went out to work, most of the agricultural work and all housework would be assumed by women. Due to women's important position within the agricultural production, the family income achieved by women also accounts for a large percentage; women's position in their families has been improved increasingly. After investigation, a family's income is mostly controlled by women or the consort. Bagatelle is delt usually by women, but the great event will be delt after discussion by the consort.
- (ii) Adult women have little fervency in the public affairs of the village. Although women's position is higher in their families, they have little fervency in the public affairs of the village. After survey, the main reason is that women have so much housework to do so that they have little free time. Meanwhile, they are restricted by the old custom "men are responsible for the outside work and women are mainly responsible for the housework". So women feel no enthusiasm for public affairs. Local public affairs are usually taken care of by men.
- (iii) Amativeness at liberty, self-determination on marriage. According to the investigation, women's amativeness in the affected area can be at liberty. They can decide marriage by themselves. Eldership can provide referenced suggestion, but they can't affect their will.
- (iv) Middle-aged women long for agricultural technology and information. In the investigation, we found that many middle-aged women long for agricultural technology and information. They have finished middle school or higher education. More attention on their children's education and the stress on the education cost make them become more concerned about chance and method to earn money. Because the traditional planting method can hardly achieve the purpose, they generally gained information through so many ways. Meanwhile, they have upper ability to receive new knowledge and new technology. They long for taking part in training of agricultural technology so as to sufficiently use local resources to increase family income.

39. In summary, women played a very important role in the production and living field of the affected area. They have higher position in their family. But due to the behindhand economy and traditional custom, women have little fervency in public affairs. Therefore, each village can use partly land compensation to retain technical adviser to train women on agriculture. On the one hand, it can meet women's requirement; on the other hand, it can improve women's fervency in public affairs through this method.

3. Scope of Resettlement Impacts

3.1 Measurements to Decrease Project Impact

40. During the design stage of the projects and adjustment of project stations and pipelines, efforts made to minimize the scope of land acquisition and resettlement. The following principles were observed in selecting the project sites:

- (i) Avoiding major infrastructure and factories,
- (ii) Avoiding or minimizing to affect existing human settlements (rural and urban),
- (iii) Avoiding or minimizing the occupation of good-quality cultivated land,
- (iv) Utilizing existing roads to provide access to proposed project sites,
- (v) Avoiding or minimizing the use of areas with dangerous topographic features or poor geological conditions, and
- (vi) Avoiding or minimizing the occupation of environmentally sensitive areas.

41. Due to improvement in design, the total amount of land acquisition was reduced 35% less than the amount of preliminary design, and house demolition and facilities were avoided completely.

3.2 Types of Losses

42. From the survey of affected communities, the following categories of losses have been identified:

- (i) Permanent loss of land: farmland (dry land) and non-farmland (wasteland);
- (ii) Temporary loss of land: temporary land occupation of wasteland and farmland;
- (iii) Other productive assets and land attachments, mainly crops; and
- (iv) To be affected temporarily road: mainly temporary land occupation and excavation of rural roads and asphalt road.

3.3 Impact Investigation

43. In accordance with the preliminary design which has been completed on 30 December 2005 by the North China Municipal Engineering Design and Research Institute, the Third Reconnaissance Design Institute has finished the reconnaissance identification of the stations and temporary pipelines and finally identified the location of pipelines and gas collection stations. Local Department of SECC reconnaissance on the spot to identify the location of acquired land with Construction Bureau and Land Bureau. And then land Bureau made the reconnaissance drawing after geological survey, definite the category of the land and then issue land alteration chart and right certification. The staff of SECC definite and count the land attachments on the site with Land & Resources Bureau and relatively villages commissions, and then held public meeting with related departments to ensure compensation standard and plan. All land documents should be centralized by Land & Resources Department of County to Land & Resources Bureau of Jincheng City, and finally submit them to Land & Resources Bureau of Shanxi Province.

44. According to the survey, the Project will acquire a total amount of permanent land acquisition of 106.37 mu, which affects four counties, four towns and seven villages with a total amount of 54 households or 213 individuals. Table 3.1 provides a detailed number of permanent land acquisition and affected persons for Shanxi Qinshui CMM Development Project.

Table 3.1 Status of APs and Scope of Permanent Land Acquisition for Shanxi Qinshui CMM Development Project

Villages	Total amount of Land Acquisition (mu)	Category of Land Acquisition (mu)			Amount of Affected Person	
		Dry land	Wasteland	Constructed Land	HH	P
Gaozhuang	46.2	46.2			21	82
Duanshi	19.1	12.9	6.2		13	51
Pingshang	15	15			7	27
Chengzhuang	15.03	2.61	12.42		4	17
Zhangling	6.75	6.75			7	28
Jiuzhuang	2.04	2.04			2	8
Beian'yang	2.25			2.25		
Total	106.37	85.5	18.62	2.25	54	213

HH = household.

45. Compared with the design before adjustment in October 2006, Jiafeng village with affected persons was deleted, but Chengzhuang and Zhangling villages were added. Affected households decreased five households with 18 members.

46. Table 3.1.1-3.1.6 lists the status of villagers' teams of affected families and its impact in six villages (within the seven affected villages for permanent land acquisition, one village is not impacted).

Table 3.1.1: Impact Status of Gaozhuang for Permanent Land Acquisition

Villagers' Team	Affected Person		Amount of Land Acquisition (mu)	Category of Land Acquisition (mu)	
	Households	Population		Dry land	Wasteland
Team One	5	20	11	11	
Team Two	4	16	8.8	8.8	
Team Three	5	19	11	11	
Team Four	3	12	6.6	6.6	
Team Five	4	15	8.8	8.8	
Total	21	82	46.2	46.2	

Table 3.1.2: Impact Status of Duanshi for Permanent Land Acquisition

Village Team	Affected Person		Amount of Land Acquisition (mu)	Category of Land Acquisition (mu)	
	Households	Population		Dry land	Wasteland
Team Two	3	12		3	
Team Three	3	12		3	
Team Four	4	16		3.9	
Team Five	3	11		3	
Total	13	51	19.1	12.9	6.2

Table 3.1.3: Impact Status of Pingshang for Permanent Land Acquisition

Village Team	Affected Person		Amount of Land Acquisition(mu)	Category of Land Acquisition(mu)	
	Households	Population		Dry land	Wasteland
Team Three	3	11	6.5	6.5	
Team Four	4	16	8.5	8.5	
Total	7	27	15	15	

Table 3.1.4: Impact Status of Zhangling for Permanent Land Acquisition

Village Team	Affected Person		Amount of Land Acquisition (mu)	Category of Land Acquisition (mu)	
	Households	Population		Dry land	Wasteland
Team One	7	28	3	3	
Total	7	28	3.75	3.75	

Table 3.1.5: Impact Status of Jiuzhuang for Permanent Land Acquisition

Village Team	Affected Person		Amount of Land Acquisition (mu)	Category of Land Acquisition (mu)	
	Households	Population		Dry land	Wasteland
Team One	1	5	1	1	
Team Three	1	3	1.04	1.04	
Total	2	8	2.04	2.04	

Table 3.1.6 Impact Status of Chengzhuang for Permanent Land Acquisition

Village Team	Affected Person		Amount of Land Acquisition (mu)	Category of Land Acquisition (mu)	
	Households	Population		Dry land	Wasteland
Team One	2	8		1.5	
Team Three	2	9		1.11	
Total	4	17	15.03	2.61	12.42

47. In addition to permanent land acquisition, the construction of Shanxi Qinshui CMM Development Project involves temporary occupation of 1216.6 mu, including 655.3 mu of dry land and the project affects temporarily 752 persons from 204 households on cultivate income of 1 year in maximum. Table 3.2 lists the status of affected families for temporary land acquisition.

48. Compared with the pipeline adjustment in October 2006, the affected villages of temporary land acquisition decreased 19 and the affected land decreased 666.4 mu, including 368.7 mu dry land decreased. Affected persons also decreased 105 households with 373 members.

Table 3.2 Affected Persons and Status of Temporary Land Acquisition for Qinshui CMM Development Project

No.	Villages	Length of Pipelines (km)	Affected Persons		Land Area and Category of Temporary land Acquisition (mu)				
			HH	P	Total	Dry land	Wasteland	Rural Road	Road
1	Duanshi	2.25	8	33	50.6	32	18.1	—	0.5
2	Gaozhuang	3.66	20	85	82.3	71	10.5	0.3	0.5
3	Pingshang	1.66	9	37	37.4	35.1	2	0.3	—
4	Douzhuang	1.13	5	16	25.4	18.7	6.7	—	—
5	Guobibei	0.83	3	11	18.7	13.9	4.5	0.3	—
6	Wohuzhuang	0.83	4	14	18.7	14.2	4.5	—	—
7	Lizhuang	2.02	11	38	47	40	6.7	0.3	—
8	Panzhuang	2.43	5	18	59.2	14.3	44.4	—	0.5
9	Yingzhuang	1.53	2	7	34.4	6.3	27.3	0.3	0.5
10	Jiafeng	4.93	13	43	113.2	33.7	78.7	0.3	0.5
11	Wu'an	1.25	7	25	32.6	18	13.8	0.3	0.5
12	Tuncheng	2.33	15	52	56.9	49.4	6.7	0.3	0.5
13	Wangchuang	1.08	4	15	26.6	13.5	13.1	—	—
14	Shangfu	2.66	3	11	64.4	10.1	53.8	—	0.5
15	Zhongzhuang	1.23	5	19	32.2	18	14.2	—	—
16	Xiazhuang	0.44	4	15	12.2	12	0.2	—	—
17	Beiyin	0.53	2	7	14.2	6.4	7.3	—	0.5
18	Xiaozhanggou	0.98	—	—	23.8	—	—	0.3	3.5

No.	Villages	Length of Pipelines (km)	Affected Persons		Land Area and Category of Temporary land Acquisition (mu)				
			HH	P	Total	Dry land	Wasteland	Rural Road	Road
19	Gouxu	0.63	6	21	16.4	15.9	—	—	0.5
20	Nanwan	1.66	7	25	42.1	17.8	24	0.3	—
21	Houtan	1.04	5	19	27.9	13.4	14.5	—	—
22	Weiyuanguo	0.85	3	11	21.4	5.9	15	—	0.5
23	Xuejialing	1.11	6	23	27.2	19.7	7	—	0.5
24	Xiakong	1.35	4	18	34.9	14.9	20	—	—
25	Bajiakou	1.44	3	12	34.7	7.2	27	—	0.5
26	Bei'anyang	2.15	11	37	52.9	37.9	15	—	—
27	Shangkong	2.15	9	31	50.6	29.1	21	—	0.5
28	Jiaojiazhuang	1.21	7	26	31.7	21.7	10	—	—
29	Yanggaoquan	1.18	8	31	34.9	21.8	12.3	0.3	0.5
30	Chishangzhuang	0.56	7	25	28.8	14.3	14	—	0.5
31	Xiaogouzhuang	0.56	—	—	14.9	—	14.4	—	0.5
32	Zhaozhuang	0.93	3	10	23.2	9.7	13	—	0.5
33	Jiuzhuang	1.02	5	17	25.2	19.4	5	0.3	0.5
Total		49.61	204	752	1216.6	655.3	524.7	3.6	33

Notes: Because the temporary land acquisition has not been carried out, affected persons listed in the Table 3.2 cannot be identified completely. Along with the final identification of affected villages, population of affected persons will be changed slightly.

3.4 Impact Analysis

49. Due to the less permanent land acquisition, and it is divided into more villages, the affected area is not affected much. Table 3.3 provides an impact status of land acquisition on cultivated land amount among affected villages. From the table, after land acquisition, APs of Gaozhuang have the most rest farmland with 2.5 mu per household; APs of Duanshi have the fewest rest farmland after land acquisition with 0.57 mu per household. It is investigated that because of the various categories of cultivated land in each village, and the contracted land of each household has been combined with different categories, most of contracted land will be divided into different places. Therefore, there is no one family's land can be acquired completely.

Table 3.3 Land Losses Status of Permanent Land Acquisition Among Affected Villages for Shanxi Qinshui CMM Development Project

Village	Farmland to be Acquired (mu)	Per Household Farmland before Land Acquisition (mu)	Affected Household	Per Household Farmland to be Acquired (mu)	Per Household Rest Farmland (mu)
Gaozhuang	46.2	4.7	21	2.2	2.5
Duanshi	12.9	1.97	13	0.99	0.98
Pingshang	15	4.02	7	2.14	1.88
Chengzhuang	2.61	2.99	4	0.65	2.34
Zhangling	6.75	2.84	7	0.96	1.88
Jiuzhuang	2.04	2.22	2	1.02	1.2
Total	85.5		59		

50. According to the discussion with the leaders of affected villages by Local Department staff of SECC, the leaders promises to adjust the land in order to satisfy grain ration at least for the families of more farmland to be acquired or the households of limited rest farmland. In general, due to the limited amount of land acquisition, impact on affected people is small. In details, the most amount of land acquisition is in Gaozhuang. But because of more farmland per capita before land acquisition, the more affected households and population, land losses per household is less and land acquisition will not cause large economic impact on them. Though less land will be acquired in Duanshi, but because of the less farmland per capita

before land acquisition, amount of rest land of APs is less. According to survey, even if economic income of APs in Duanshi is mainly from industry, the leader promises to ensure sufficient grain ration for affected persons by adjusting unused land if the affected persons hope to adjust the land. Other villages, on the one hand, the land acquisition is limited; on the other hand, income of farms mainly depends on industrials, so the impact on it is faintness.

4. Legal Framework and Policy

51. There are two sets of regulatory and policy requirements that are applicable to the land acquisition and resettlement of Shanxi Qinshui CMM Development Project. One is the relevant Chinese laws and regulations at national and provincial levels, and the other is the requirements of ADB policies. These regulatory and policy requirements are summarized in the following sections:

4.1. Chinese Laws and Regulations and Local Regulations and Policies

1. Land Administration Law of PRC (revised on August 28, 2004)

52. **Article 47** stipulates that in case land acquisition shall take place, compensation shall be made in accordance with the original usage of the acquired land.

53. Compensation of farmland acquisition shall include a land compensation fee, a resettlement subsidy and a compensation fee for the attachment of the land and standing crops. The land compensation fee for the acquired cultivated land is 6 to 10 times the average annual output value (AAOV) of the land in the previous 3 years before land acquisition. The resettlement subsidy of acquired farmland shall be calculated according to the agricultural population to be resettled. The agricultural population to be resettled is computed with the quantity of acquired farmland divided by the farmland quantity per person of the acquired unit. The resettlement subsidy for each agricultural population to be resettled shall be 4 to 6 times the AAOV in the previous 3 years. But the resettlement subsidy for the acquired farmland per hectare shall not exceed 15 times the AAOV in the previous 3 years.

54. Compensation and resettlement subsidy standard of other land acquisition should be regulated according to the land compensation fee and resettlement subsidy for acquired cultivated land by provinces, autonomous regions and cities.

55. Compensation standard of acquired attachment of land and green crops should be regulated by provinces, autonomous regions and cities.

56. If the original living conditions of resettled persons cannot be rehabilitated according to the regulated land compensation and resettlement subsidies, resettlement subsidies can be added after the approval of the government of province, autonomous regions and cities. But the total amount of land compensation and resettlement subsidies should not exceed 30 times the AAOV in the previous 3 years before land acquisition.

57. **Article 48** stipulates that the local government should disclose and hear the advice of collectively economic organization and farmers of affected villages after identification of compensation plan.

58. **Article 53** stipulates that if the approved project construction needs to use state-owned constructed land, construction unit should submit related documents regulated by laws and regulations to the Land Department with the approval right for applying for constructed land acquisition and then to submit to Government for approval after audited by the Land Department.

59. **Article 57** states that the state-owned land or farmers' collective-owned land is required for temporary use for the construction and geological perambulation of the project. Approval shall be obtained from the land administration of the people's government at the county level. Land acquisition for temporary use within the city planning area shall be approved firstly by the city planning administration department and then submitted to the land administration for approval. The land user shall sign a temporary land utilization contract with the land administration department or countryside collective economic organization or villagers committee according to the land right or ownership and pay the compensation fee for temporary use of land.

60. Temporary user of the land shall use the land according to the methods specified in the land contract and shall not build permanent buildings on the land.

61. The duration of land for temporary use normally shall not exceed 2 years.

2. Regulations of Land Administration of PRC (1998)

62. **Article 25** stipulates that the local government of land acquisition organize implementation and disclose approved land acquisition units, approved number, approved usage, scope and area of land, compensation standard, and resettlement measurements of agricultural population and acquired land compensation deadline in affected towns and villages after approval of land acquisition plan.

63. Owner and users of acquired land should take land right certification to appointed land administration department to deal with registration of acquired land compensation in the stipulated deadline. The Land Administration Department of city and county should, combining with the drafting compensation and resettlement subsidy plan, disclose related details according to approved land acquisition plan and hear suggestions from collectively economic organization and farmers. After approval of compensation and resettlement plan to government of city or county, it should be implemented by land administration department. If there are some disputes within the compensation standard, it should be coordinated by the local government. If coordination is not successful, it should be judged by the government which approved the land acquisition. Disputes within compensation and resettlement have no impact on implementation of land plan.

64. All costs of land acquisition should be paid in 3 months from the date of approval of land acquisition compensation and resettlement plan.

65. **Article 26** stipulates that the land compensation should belong to collectively economic organization; compensation of attachment of land and green crops should be received by the owners.

66. Resettlement subsidies should not be used for other utilizations. Persons resettled by collectively economic organization, resettlement subsidies should be managed and used by the collectively economic organization. Persons resettled by other units, the subsidies should be paid to resettlement unit. Persons who need not resettle together, the subsidies should be paid to themselves or be used to pay assurance fee of resettled persons after agreement by themselves.

67. The city, county, and town governments should strengthen monitoring on the usage of resettlement subsidies.

68. **Article 28** stipulates that the temporary farmland for project construction and

reconnaissance should be rehabilitated growing conditions within 1 year from deadline of temporary land acquisition by the land users.

3. No. 55 of State Department for Leasing and Transferring Interim Regulation of Township National Land Usage Right of the PRC (1990)

69. **Article 12** stipulates that the highest period of land utilization right should be identified according to the following: (i) living land occupation for 70 years; (ii) industrial land occupation for 50 years; (iii) educational, science and technology, culture, healthy and physical land occupation for 50 years; (iv) industrial, touring and entertainment land occupation for 40 years; and (v) comprehensive or other land occupations for 50 years.

70. **Article 13** stipulates that the leased land utilization right can take the following measurements: 1. agreements; 2. bidding; and 3. auction.

71. **Article 14** stipulates that the land user should pay all the land use right leasing fees within 60 days after signing of contract of leased land utilization right. The land owner can relieve the contact and require penalty if the amount is not paid within the period.

4. Decision of State Department on Strengthening Reform and Executing Land Administration (2004)

72. **Article 12** stipulates improving the methods of land acquisition compensation. Local Governments should take actual measurements to make the living conditions of farmers not to decrease due to the land acquisition and ensure to pay legally sufficient land compensation, resettlement subsidies and compensation of attachments and green crops in time. In accordance with the present regulations on payment of land acquisition compensation and resettlement subsidies, living conditions of farmers cannot be rehabilitated to the original standard or payment cannot be sufficiently ensured social guarantees of farmers who had no farmland due to land acquisition, governments of province, provinces, autonomous regions and cities should approve to add resettlement subsidies. The total amount of the maximum legal land acquisition compensation and resettlement subsidies cannot sufficiently keep the original living conditions of farmers, local governments can be subsidized through income of state land utilization. Governments of province, provinces, autonomous regions and cities should make and publish output standard of 1 year or comprehensive land price in order to make the land compensation with equivalent price in the same land. All land acquisition cost of main state-constructed project should be listed in budget.

73. **Article 13** stipulates to resettle persons of land acquisition. The Government of County should make detailed methods to ensure the living guarantee of farmers for a long period. For the project with steady profit, farmers can put the usage right of approved constructed-land into stocks. In the planning area in the urban city, local governments should put the non-land farmers caused by land acquisition into employment system and establish socio guaranteed systems; outside of the planning area, while acquiring the collective land, local governments should keep the farmers necessary farmland in the political area or arrange related jobs; for the invisibility of basis living conditions farmers with no cultivated land who should be resettled to other places. Labor and Socio Guarantees Department should provide appointed suggestion for employment training of farmers and socio guarantees system timely with relate departments.

74. **Article 14** stipulates to improve land acquisition procedures. During the land acquisition, property rights of collective lands and operating rights of contracted land should be protected. Before the approval of land acquisition, usage, location, compensation standard and resettlement method of land acquisition should be published to farmers of land acquisition; result of survey about present profile of land should be identified by collective

organizations and farmers; if necessary, land & resources department should certify for hearing meets. All of the related materials of knowledge and identification of farmers should be as the necessary materials for approval. Land acquisition compensation and resettlement subsidy disputes in coordination and judged systems should be strengthened to establish and improve in order to protect entitlement of the farmers and the users. The approved regulations about land acquisition should be published except there are some special.

75. **Article 15** stipulates to strengthen implementation and monitoring. Land acquisition should not be used before complement of resettlement subsidy and land acquisition compensation. Governments of province, provinces, autonomous regions and Cities make inner allocation method of land acquisition compensation for collective organization according to acquired farmers' principles. The organization should publish the allocation status and incomes to its members in order to receive monitoring. Agricultural and People's Government should strengthen monitoring on allocation and usage of the land acquisition compensations.

5. PRC Land Administration Law Implementing by Shanxi Province (1999)

76. **Article 27** stipulates that the land acquisition units should pay the land compensation fees according to the following standards:

- (i) The acquisition of basic farmland land (orchard land, fish pound, and lotus pound are regarded as basic farmland) should be compensated at 8 to 10 times of the AAOV of the land in the previous 3 years before the acquisition;
- (ii) Other farmland than basic farmland land expropriated should be compensated at 6 to 9 times of the AAOV of the land in the previous 3 years before the acquisition;
- (iii) Postal and grass land to be acquired should be compensated at seven times of AAOV in previous 3 years before the acquisition;
- (iv) Forest land to be acquired should be compensated according to the related compensation;
- (v) Homestead to be acquired should be compensated according to the near farmland compensation standard;
- (vi) Idle land, waste mountain, waste land, and waste alluvial land to be acquired should be compensated at 3 to 6 times of the AAOV in previous 3 years of the whole village's farmland before the acquisition;
- (vii) Trashing floors and sunning ground to be acquired should be compensated according to the original compensation standard of land.

77. **Article 28** stipulates that the land acquisition units should pay the resettlement subsidies according to the following standards:

- (i) The acquisition of basic farmland land (orchard land, fish pound, and lotus pound are regarded as basic farmland) should be compensated at 5 to 6 times of the AAOV in previous 3 years before the land acquisition;
- (ii) Other farmland land than basic farmland land expropriated should be compensated at 4 to 5 times of the AAOV in previous 3 years before the acquisition;
- (iii) The acquisition of posture and grass land should be compensated at 5 times of the AAOV in previous 3 years before the acquisition;
- (iv) Forests to be acquired should be compensated according to related subsidies;
- (v) Resettle subsidy of acquired land stipulated in the above article shall not exceed 15 times of the AAOV of the land in the previous 3 years before the acquisition per hectare;
- (vi) Homestead, idle land, waste mountains, waste land, waste alluvial and trashing location land to be acquired should not be compensated.

78. **Article 29** stipulates AAVO of farmland land in the previous 3 years before land acquisition should be accounted as follows:

- (i) Owners of land acquisition should submit the grown status in the previous 3 years to the village communities;
- (ii) Local government and villages' committee should publish the above status in affected villages and hear the suggestions of the farmers;
- (iii) Local government or village community certify the submitted status according to the farmers' suggestion;
- (iv) Local land administration department of the acquired land at county level calculates the production, output value and the AAOV of the acquired farmland in the previous 3 years according to certified status, the same period statistic and crop price of the same period.

79. **Article 30** stipulates that if the original living conditions of resettled persons cannot be rehabilitated according to the regulated land compensation and resettlement subsidies of Article 27 and 28, resettlement subsidies can be added after the approval of the government. But the total amount of land compensation and resettlement subsidies should not exceed 30 times the AAOV in the previous 3 years before land acquisition.

80. **Article 31** also stipulates that compensation fee for the attachment of the land and standing crops shall be paid according to the following standard:

- (i) The compensation for the attachments, such as the construction and building, can be compensated through discount or same quality and quantity of attachments;
- (ii) The compensation of green crops shall be paid according to the output value in no more than one season;
- (iii) For the transplanted trees, labor cost and trees losses fees should be paid; if the trees cannot be transplanted, compensation should be paid according to the related regulations;
- (iv) Compensation for the fish plot, lotus-root pond and grassland shall be paid according to the related regulations.

81. After the announcement of the Land Acquisition Plan, The planted trees and the constructed attachments in time shall not be compensated. The constructions and other facilities built on the illegally occupied land shall not be compensated.

6. Shanxi Compensation Allocation of Farmers' Collective Land Acquisition (2005)

82. **Article 5** stipulates that the agricultural and other departments at the county level should strengthen monitoring on utilization of inner compensation allocation for land acquisition of collectively economic organization.

83. **Article 6** stipulates that Land & Resources Bureau should tell the owner of the land, the organizations and owners of the attachments with writing documents the usage, location, area, compensated standard and resettlement method of the land acquisition before submitting land acquisition for approval.

84. Local land & resources department should investigate the owned right, category, area of land acquisition and owned right, category, quantities of attachments, and the results should be identified by farmers of land acquisition, collectively economic organization and owners of the attachments. The identified materials are the necessary content for approval of land acquisition. Matters of land acquisition after approval should be published.

85. **Article 10** stipulates that land acquisition unit should pay all of the compensation fees

to the acquired farmers within 3 months from the date of approving the land acquisition and resettlement plan; time payment can be paid after agreement of farmers.

86. Land & Resources Department should not distribute approved documents of constructed land and should not deal with supplying land procedures with insufficient compensation fees. Land acquisition unit cannot use land and construct project without permit, but the farmers and the collectively economic organizations have continual utilization right of land.

87. **Article 13** stipulates part of the land acquisition with identified rights and definite land, its compensations cannot be paid lower than 80% to the acquired household and the rest of 20% will be paid to collectively economic organization.

88. For land acquisition of unidentified land and right, its land acquisition compensation and resettle subsidy should be paid to the legal contactors of the collectively economic organization in average while the identification of land acquisition compensation and resettle subsidy, the rest parts are given to collectively economic organization.

89. **Article 14** stipulates that all compensations of green crops and attachments should be paid to the owners of attachments and green crops.

90. **Article 17** stipulates that the land compensation used by collectively economic organization should be put into public capitals to develop production, add accumulation, collective welfare, publish utility and other aspects, but it cannot be used to pay non-productive expenses such as official profit, entertainment expenses for guests and debts. Utilization Plan of land compensation for collectively economic organization should be agreed by two-thirds of the members of the organizations. Income should be disclosed timely and monitored by farmers.

91. **Article 18** stipulates that the collectively economic organizations should publish fully compensation, use and allocation status of land compensation timely.

92. Local agricultural departments should audit and monitor the utilization and allocation of land compensation according to the related law.

7. Regulations of Urban Houses Demolishment (2001)

93. In accordance with the present survey, house demolishment is not involved within the project. During the implementation, if there are house demolishments, it should be executed according to the following:

94. **Article 4** stipulates that persons of demolished houses should be given compensation and resettlement according to this regulation.

95. **Article 13** stipulates that the two parties should sign demolishment compensation and resettlement agreement which includes compensation style, amount, area and location of resettled house, removal period, transitional manner and transitional periods in accordance with this regulation.

96. **Article 31** stipulates owners and leaseholders of the houses should be paid removal subsidy by the land users. Within the transitional period, owners and leaseholders of the houses arranged living place by themselves and the land users should pay the temporary resettlement subsidies; if the owners or the leaseholders of houses use houses provided by the land user, resettlement subsidies should not be paid. Removal subsidies and temporary resettlement subsidies standard should be stipulated by governments of provinces, autonomous regions and cities.

8. Temporary House Demolishment Compensation Standard Prepared by Jincheng Construction Bureau

Name	Type	Unit	Compensation Standard	Notes
Residential house		CNY/m ²	840 to 940.5	compensated according to different structures
Toilets	With roof	CNY/per	300	
	Without roof	CNY/per	200	
Trees	Economic trees	CNY/per	50	
	Timber trees	CNY/per	20	Compensate CNY5 for a tree with diameter less than 10 centimeters

CNY = yuan, m2 = square meter.

9. District Land Compensation Standard made by Jincheng Land & Resources Bureau

County (City)District	Area	Compensation fees (CNY/mu)	Compensated project
Chengqu	I	41,800	Land compensations fees, resettlement subsidies and green crop compensation fees
	II	69,600	
	III	87,000	
	IV	62,100	
Zezhou	I	35,554	Land compensations fees, resettlement subsidies and green crop compensation fees
	II	40,555	
	III	38,231	
	IV	31,928	
	V	29,141	
Gaoping	I	21,718.2	Land compensations fees, resettlement subsidies and green crop compensation fees
	II	31,886.2	
	III	35,796.8	
	IV	53,798.7	
	V	25,699.3	
Yangcheng	I	26,800	Land compensations fees, resettlement subsidies and green crop compensation fees
	II	34,398	
	III	43,413	
	IV	59,820	
	V	19,398	
Lingchuan	I	35,369	Land compensations fees, resettlement subsidies and green crop compensation fees
	II	29,697	
	III	25,504	
	IV	17,600	
Qinshui	I	19,823.47	Land compensations fees, resettlement subsidies and green crop compensation fees
	II	26,610.12	
	III	18,963.27	
	IV	35,923.46	
	V	24,424.25	
	VI	29,472.66	
	VII	34,481.29	
	VIII	24,484.5	

10. Compensation Standard for Civic Engineering Facility Road Excavation Prepared by Jincheng Transit Authority

- (i) Cement-concrete road: CNY 150/square meter (m²);
- (ii) Asphalt-concrete road: CNY 130/m²,
- (iii) Up-paved road: CNY20/m²,
- (iv) Cement-brick pedestrian: CNY110/m².

4.2 The Asia Development Bank Policy on Involuntary Resettlement

97. This policy was approved and published formally in 1995 by ADB. Its basic requirement is that the living standard of the affected people who have to move elsewhere should be the same at least as before, or enhanced. The whole objective of ADB Policy on involuntary resettlement is as follows:

- (i) Discuss all feasible project design plan so as to avoid or decrease involuntary resettlement as possible;
- (ii) If the immigrant cannot be avoided, immigrant activity should be considered and implemented as continuing development plan. Sufficient funds should be supplied in so as to make the immigrants share benefit of the project. Careful discussion should be carried out with immigrants so as to make the immigrants have chance to take part in the planning and implementation of resettlement plan;
- (iii) Assist the immigrants to improve their living standard, at least get back to the original living standard as before or before the project construction.

98. In order to resolve problems, e.g., due to the compelling land acquisition, immigrants lose their production goods or other property so that they can produce and live hardly, ADB required the borrower to prepare a resettlement plan or resettlement policy which includes the following:

- (i) Resettlement plan or resettlement policy should take related measures to ensure immigrants:
 - (a) be told of their own option and other right on resettlement;
 - (b) know feasible plan on technology and economy, take part in the discussion and share the chance to select;
 - (c) according to the resettlement cost, achieve effective recommendation so as to counteract the direct property loss caused by the project.
- (ii) If affected, including removal, resettlement plan or resettlement policy should take related measures to ensure immigrants:
 - (a) receive assistance during removal period (e.g., removal subsidy);
 - (b) grain housing or curtilage, or according to the requirement, grain agricultural production ground. The potential production, location advantage and other comprehensive factors of the new ground should correspond with the original at least.
- (iii) In order to achieve the objective of this policy, resettlement plan and resettlement policy should take related measures as occasion requires ensuring immigrants:
 - (a) after removal, transition period should be estimated reasonably according to required time to get back the living standard. During this period, they can receive help.
 - (b) can achieve assistance on soil preparation, credit, training and employment.

99. In a word, the principles for land acquisition and resettlement in Shanxi Qinshui CMM Development Project are based on the land management law of China, local laws and regulations, and requirements and procedures put out by ADB. The main goal of the land acquisition and resettlement is to restore the affected people's living standard and income as soon as possible, to try our best to decrease the damage to their economical and social environment in a short time after resettlement. Especially the requirements of the resettled vulnerable people and poor families should be put into the consideration. Land acquisition and resettlement plan of the project has been prepared on the basis of the above principles. In the table 4.1, main principles and measures are put forward in the involuntary resettlement policy and resettlement manual of ADB.

Table 4.1: The Principles and Measures for Land Acquisition and Resettlement

The Principles	The Measures
1. In the aspect of economy, engineering, society and environment, reducing the non-voluntary resettlement to a minimum.	Land acquisition and resettlement issues have been considered for each project during project design stage, which must minimize land acquisition and resettlement.
2. To work out the resettlement plan for resettled families.	Identified APs and their land, houses and other assets during project design; measurement survey and socio-economic survey conducted to assess impact and propose income rehabilitation plan.
3. The affected families should get the full compensation for their losses.	Provide exchange of the land; cash compensation for land, houses, attachments and green crops in accordance with existing procedures; resettlement plan includes provisions for other assistance.
4. To notice the affected people and to discuss with them the options of compensation.	Meetings with APs, village leaders, and local governments were held; household interviews and socio-economic survey of APs were conducted. Information campaigns through the local media and meetings, village committees and local governments to inform the APs will be carried out. This process will continue throughout the planning and implementation stages.
5. Before the satisfactory of the affected families, the land acquisition and resettlement should not be started.	Environment and land acquisition and resettlement aspects were considered as major factors for the selection of the project scheme, including to minimize the land acquisition and house demolition and avoid high-quality farmland, major basis equipments, industrial company, towns and residential-collective district to be affected. Project schedule will take into account land acquisition and resettlement timetables.
6. The Resettlement Action Plan should be taken under the supervision of the local government and ADB.	An independent agency will be engaged, under the terms of reference acceptable to ADB, to monitor the land acquisition and resettlement plan and to report on it to the Government and ADB.

ADB = Asian Development Bank, AP = affected person.

4.3 Objectives and Principles of Resettlement Plan

100. The primary objective of the RAP is to restore the income and living standards of the affected persons (APs) within a short period after land acquisition and with as little disruptions as possible in their own economic environment. Particular attention will be given to the needs of the poorest and vulnerable groups to be affected. The RAP for this Project has been prepared with these in mind as the guiding principles. To meet the ADB's requirements on involuntary resettlement, the following principles and approaches are adopted:

- (i) Involuntary resettlement should be avoided or minimized in the aspect of economy, engineering, society and environment;
- (ii) The affected households should be compensated for all losses;
- (iii) APs should be informed of and consulted on selection of compensation standards;
- (iv) No land acquisition will take place prior to the satisfactory of APs; and
- (v) Implementation of land acquisition and resettlement should be monitored by local government and ADB.

4.4 Principles of Compensation

101. If there are some differences between the national and local law and regulation requirements and ADB's policy, it should be consistent with the ADB requirements, the principles of compensation and entitlements of this project are as follows:

- (i) Compensation and entitlements provided to APs are adequate to at least maintain their pre-project living standard, and with the prospect of improvement;
- (ii) Temporary land acquisition and impacted period are kept to a minimum;
- (iii) All APs, legal and illegal, are taken into consideration and compensated ;
- (iv) The land holding per capita after land acquisition is sufficient to maintain the previous living standards; where land occupation per capita is not sufficient to maintain previous living standards, other income generating jobs should be provided;
- (v) All APs are timely informed on compensation conditions, compensation standards, and restoration living standard and income and project schedule;
- (vi) No land acquisition will take place prior to satisfactory compensation of the APs.

4.5 Definition of APs and Compensation Eligibility

102. APs refer to all persons whose livelihood or living standard is adversely affected through the loss of land, other assets and income as a consequence of the Project. All APs losing land, green crops or sources of income will be compensated in accordance with the type and amount of their losses and they are included in the final survey to be completed within the deadline specified by the government, and identify impact nature: long period impact and temporary impact during construction. The deadline specified by the government is set as the final date for compensation eligibility. APs cultivate land and other assets after the deadline will not be eligible to compensation or subsidies.

4.6 Basis of Compensation Rates

103. According to the Land Administration Law of PRC and Shanxi Provincial Implementation Method of Land Administration Law, the permanent and temporary land acquisition policy of Jincheng City, and the basis price of land acquisition compensation made by Jincheng Land Bureau according to different area lands, Local Department of Shanxi Energy CMM Company Limited discussed with Land and Resources Administration Bureau of related counties and affected villages. Consulted date, site and participation members can be seen in Table 4.2.

**Table 4.2: Discussion of Compensation
Standard for Permanent Land Acquisition**

Date	Site	Members	Discussed Contents and Results
26 Sep 2005	Divan of Duanshi Land Administration Office	Zhao Jinlin, Yan Zhiqiang, Wang Yongfang and Yan Bing of SECC; Huo Zhenghua, Ping Haixia, Zhang Dongying of Qinshui LRB; Zhang Jing, Ma Qinqun of Duanshi Land Administration Office; village leaders Liu, Zhan of Pingshang and five immigrants and representatives.	Identified the acquired land of Pingshang as VI; compensation standard of land acquisition as CNY32,500/mu; land acquisition compensated agreement will be signed by Pingshang and Land and Resources Bureau of Qinshui County.
26 Sep 2005	Divan of Duanshi Land Administration Office	Zhao Jinlin, Yan Zhiqiang, Wang Yongfang and Yan Bing of SECC; Huo Zhenghua, Ping Haixia, Zhang Dongying of Qinshui LRB; Zhang Jing, Ma Qinqun of Duanshi Land Administration Office; Diao Huiying, Guo Jianbing of Duanshi and five immigrants and representatives.	Identified the acquired land of Duanshi as Area I; compensation standard of land acquisition as CNY21,600/mu; land acquisition compensated agreement will be signed by Duanshi and Land and Resources Bureau of Qinshui County.
26 Sep 2005	Divan of Duanshi Land Administration Office	Zhao Jinlin, Yan Zhiqiang, Wang Yongfang and Yan Bing of SECC; Huo Zhenghua, Ping Haixia, Zhang Dongying of Qinshui LRB; Zhang Jing, Ma Qinqun of Duanshi Land Administration Office; Wang Zhongyi and Wang Fuqiang of Gaozhuang and seven immigrants and representatives.	Identified the acquired land of Gaozhuang as Area V; compensation standard of land acquisition as CNY24,000/mu; land acquisition compensated agreement will be signed by Gaozhuang and Land and Resources Bureau of Qinshui County.
27 Sep 2005	Divan of Jiafeng Land Administration Office	Zhao Jinlin, Yan Zhiqiang, Wang Yongfang and Yan Bing of SECC; Huo Zhenghua, Ping Haixia, Zhang Dongying of Qinshui LRB; Guo Xinqiang of Jiafeng Land Administration Office; Feng Deshan of Jiafeng and five immigrants and representatives.	Identified the acquired land of Jiafeng as Area I; compensation standard of land acquisition as CNY21,600/mu; land acquisition compensated agreement will be signed by Jiafeng and Land and Resources Bureau of Qinshui County.
28 Sep 2005	Divan of Nancun Land Administration Office	Zhao Jinlin, Yan Zhiqiang, Wang Yongfang and Yan Bing of SECC; Liu Genqi of Zezhou LRB; Zhang Liangshan of Nancun Land Administration Office; Wang Hesheng of Beixi and five representatives.	Identified the acquired land of Beixi as V; compensation standard of land acquisition as CNY29,200/mu; land acquisition compensated agreement will be signed by Beixi and Land and Resources Bureau of Zezhou County.
28 Sep 2005	Divan of Xishangzhuang Land Administration Office	Zhao Jinlin, Yan Zhiqiang, Wang Yongfang and Yan Bing of SECC; Pang Anqing of Jincheng LRB; Cheng Li of Xishangzhuang Land Administration Office; Li Tianchang of Xishangzhuang Sub district Office Liu Qiang of Gaojiang and two representatives.	Identified the acquired land of Gaojiang as I; compensation standard of land acquisition as CNY41,800/mu; land acquisition compensated agreement will be signed by Gaojiang and Land and Resources Bureau of its County.
30 Sep 2005	Divan of Fengcheng Land Administration Office	Zhao Jinlin, Yan Zhiqiang, Wang Yongfang and Yan Bing of SECC; Shangguan Tingyan of Yangcheng LRB; Qin Fenggao of Fengcheng Land Administration Office; Song Haishui, Zhao Xintai of Jiuzhuang, four immigrants and representatives.	Identified the acquired land of Jiuzhuang as II; compensation standard of land acquisition as CNY40,000/mu; land acquisition compensated agreement will be signed by Jiuzhuang and Land and Resource Bureau of Yangcheng County.
30 Sep 2005	Divan of Fengcheng Land Administration Office	Zhao Jinlin, Yan Zhiqiang, Wang Yongfang and Yan Bing of SECC; Shangguan Tingyan of Yangcheng LRB; Qin Fenggao of Fengcheng Land Administration Office; Li Xuezheng, Jia Huguang of Bei'anyang and three representatives.	Identified the acquired land of Bei'anyang as V; compensation standard of land acquisition as CNY19,500/mu; land acquisition compensated agreement will be signed by Bei'anyang and Land and Resources Bureau of Yangcheng County.

Date	Site	Members	Discussed Contents and Results
October 2007	Zhangling of Xishangzhuang District Office in Jincheng City	Li Heping, Qin Shuangquan and Su Jinbo of SECC; Huang Baozhu and Qin Qianjin of Zhangling and six immigrants and representatives.	Identified preliminarily compensation standard of land acquisition of Zhangling as CNY41,800/mu.
October 2007	Chengzhuang of Xiacun Town in Zezhou County	Li Heping, Qin Shuangquan and Su Jinbo of SECC; Yang Shihui and Li Renshan of Chengzhuang and five immigrants and representatives	Identified preliminarily compensation standard of land acquisition of Chengzhuang as CNY29,200/mu

104. Compensation standard of permanent land acquisition of each village include land compensation fees, resettlement subsidies and crop subsidies. According to the identified land acquisition compensation standard after discussion, it is estimated that Shanxi Qinshui CMM Development Project needs a total permanent land acquisition compensation fee of CNY2.8555 million with the average of CNY26,800/mu. Details can be seen in Table 4.3.

Table 4.3: Compensation Fees for Permanent Land Acquisition of Shanxi Qinshui CMM Development Project

No.	Villages	Quantities of Acquired land (mu)	Compensation Standard (CNY/mu)	Total amount of compensation (10 ⁴ CNY)
1	Gaozhuang	46.2	24,000	110.88
2	Duanshi	19.1	21,600	41.26
3	Pingshang	15	32,500	48.75
4	Chengzhuang	15.03	29,200	43.89
5	Zhangling	6.75	41,800	28.22
6	Jiuzhuang	2.04	40,000	8.16
7	Bei'anyang	2.25	19,500	4.39
	Total	106.37	—	285.55

CNY = yuan.

105. For temporary land occupation, the identified compensation standard for cultivated land will be set at 1.5 times of AAOV for less than 1 year of occupation. For occupation up to 2 years, a compensation of 2.5 times of AAOV will be ensured. AAOV of various lands will be identified based on the annual production of dry land, irrigated and vegetables land and the market price of food and vegetable products, including: CNY1,200 per mu for dry land; CNY2,000 per mu for irrigated land; CNY3,000 per mu for vegetable land. Due to the temporary land acquisition of pipelines construction within 6 months, the compensation standard is based on compensation rates for less than 1 year of occupation. Compensation rates of different categories of land can be seen in Table 4.4. The owner of the project should be responsible for excavating the acquired land, otherwise the compensation standard are to be set at CNY1,000 per mu.

Table 4.4 Compensation Standard of Temporary Land Acquisition

Type of Land	AAOV	Subsidies for Green Crop		Compensation for Annual production losses		Total (CNY)	
		Times	Amount (CNY)	Times	Amount (CNY)	Times	Amount (CNY)
Dry land	1,200	0.5	600	1	1,200	1.5	1,800
Irrigated land	2,000	0.5	1,000	1	2,000	1.5	3,000
Vegetable Land	3,000	0.5	1,500	1	3,000	1.5	4,500

CNY = yuan.

4.7 Relevant Taxes

106. In accordance with the relevant regulations of PRC and Shanxi Province, land administration fees, land excavation fees, cultivated land occupation fees, utilization fees of the newly added construction land, evaluating fees of land and other related taxed with the total amount of CNY7.3448 million will be paid by the Project for land acquisition. Details are in Table 4.5.

Table 4.5 Relevant Taxes of Part B of Qinshui CMM Development Project

Villages	Quantities of acquired land	Area			Relevant Taxes (10 ⁴ mu)	Total (10 ⁴ CNY)
		Dry land	Wasteland	Constructed Land		
Gaozhaung	46.2	46.2			7.0	323.40
Duanshi	19.1	12.9	6.2		7.24	138.28
Pingshang	15	15			6.15	92.25
Chengzhuang	15.03	2.61	12.42		8.41	
Zhangling	6.75	6.75			4.69	
Jiuzhung	2.04	2.04			6.27	12.79
Bei'anyang	2.25			2.25	7.67	17.26
Total	106.37	85.5	18.62	2.25		734.48

4.8 Entitlements Matrix

107. According to the on-spot survey by Local Department of SECC, main impacts of Shanxi Qinshui CMM Development Project on residents have been identified. An entitlement matrix has been prepared as a guide for compensation payments. It is presented in Table 4.6.

Table 4.6: Entitlements Matrix

Affected categories	Affected Degree	Persons With Right to Be Compensated	Compensated Policy and Standard
54 households with 213 persons to be affected for permanent land acquisition.	Dry land and wasteland of 106.37 mu for permanent land acquisition.	Affected persons who used the land before regulated deadline (deadline of socio-economic survey in the project affected area).	Compensation standard: Qinshui County: Gaozhuang at CNY24,000/mu, Duanshi at CNY21,600/mu, Pingshang at CNY32,500/mu; Zezhou County: Chengzhuang at CNY29,200 /mu; Xishangzhuang District Office: Zhangling at CNY41,800/mu; Yangcheng County: Bei'anyang at CNY19,500/mu, Jiuzhuang at CNY40,000 /mu; Some villages propose to allocate land for affected persons through adjusting collective land; some villages would compensate affected persons with cash.
Temporarily affected farmland, affected 204 households, 752 persons.	During construction, dry land of 655.3 mu, unused land of 524.7 mu, rural and asphalt road of 36.6 mu will be temporarily occupied.	All land users (including renting other persons' land) can obtain green crop compensation.	In accordance with the standard of dry land at CNY1,800/mu, paying users green crop compensation. After utilization of 1 year, land should be rehabilitated to the original or better cultivated level. If the quality of the land is affected or acid when it returned to farmers, suitable measurements should be taken timely to improve the land

Affected categories	Affected Degree	Persons With Right to Be Compensated	Compensated Policy and Standard
Permanently affected houses and homestead.	None of the houses and other buildings will be affected according to the present identified location and pipelines routes.	If there are some adjustments on station and pipelines routes, some houses and buildings will be affected. APs are house owners with or without house certification at the regulated deadline.	In the project construction area, houses are always mixed-brick structures, the compensation standard of house demolition is CNY600/m ² . Demolished houses can permute homestead of equivalent area with the original house in the village. APs can reuse materials of the original houses.
	Need to move to a new place be apart from the original place more than 500 meters.	Persons need to remove.	Paying special resettled subsidy, each household will obtain removal transportation fees, working losses fees, removal losses fees and transitional fees of temporary housing of a total amount of CNY770.
Largely affected by land acquisition	More than 50% of land losses are affected by land acquisition. And the village cannot immediately adjust land for the affected families.	Labours of households with more than 50% of land losses caused by land acquisition	Providing female labours or male labours with no non-farm incomes with preferred related job opportunities.
Vulnerable groups	Vulnerable groups whose land or housing has been affected by the Project	Vulnerable APs may be the elderly disabled persons, divorced family of female-headed households, the old persons' family lack of labor and income sources and the household that net annual income per capita is lower than CNY1,000.	After the preliminary survey, vulnerable families account for 9.3% of the permanently affected households. They will receive additional assistant. The assisted amount is determined preliminarily at CNY5,000 per household. Affected persons would be investigated carefully when the amount is issued in order to finally confirm vulnerable groups' identification

AP = affected person, CNY = yuan.

5. Resettlement Plan

5.1 Income Rehabilitation of Affected Persons for Permanent Land Acquisition

108. In order to roundly arrange the immigrants of this Project, in the process of socio-economic investigation, impact survey and the preparation of resettlement plan for Energy Institute of Shanxi Social Science Academy and the staff of Shanxi Energy Coal Mine Methane Company Limited convened conversation with the participation of leaders, immigrants and representatives in the involved villages. The special topic they discussed was the resettlement plan. The Project affects a few on the production of local farmers and the economic income of each village, but it caused stated impact on the permanently acquired land contractors. Therefore, Shanxi Energy Coal Mine Methane Company Limited communicated and discussed sufficiently with the village communities on the utilization of the resettled funds, methods and measures to rehabilitate the original production so as to decrease impact on immigrants' production, living standard and economic income by land acquisition of Project. Finally, resettlement plan of this village are determined on the basis of immigrants and representatives' suggestion and certificated by the local government and vast immigrant's representatives.

5.1.1 Gaozhuang in Qinshui County

109. Gaozhuang has been acquired dry land of 46.2 mu which affected 21 households and 82 people. Village commission promises to rehabilitate the living conditions of APs by the following measures:

- (i) Sufficient unused land in the village can be adjusted to the affected family with equal acquired land so that contracted land after resettlement can be equal with other villager's;
- (ii) According to Shanxi Compensation Allocation Method for Acquired Farmers' Collective Land (2005), 80% of land compensation cost and resettled subsidy should be paid to the legal land contractors of affected villagers on the average; the rest should belong to collectively economic organization of the village;
- (iii) Gaozhuang Village can obtain land compensation cost of CNY1.1088 million. Including, CNY0.88 million will be divided into all villagers, others should be subsistence in the village community;
- (iv) The rest land compensation cost will be used to guide farmers to plant excellent breed and to adjust cultivated method and agricultural structure, which can sufficiently discover the cultivated potential so as to improve production and rehabilitate economic income of immigrants and all villagers.

5.1.2 Duanshi in Qinshui County

110. Duanshi has been acquired dry land of 12.9 mu and waste land of 6.2 mu which affected 13 households and 51 people. Village committee promises to rehabilitate the living conditions of APs by the following measures:

- (i) Because most of the affected villagers hope to be compensated with cash, resettled measures of cash compensation will be mainly taken. According to Shanxi Compensation Allocation Method for Acquired Farmers' Collective Land (2005), 80% of land compensation cost and all resettled subsidy will be divided into households, the rest of 20% will be subsistence in collectively economic organization of the village. Cultivated land in the village will not be adjusted any more. The affected households can adjust planting structure or develop commercial service with these compensation cost to rehabilitate and improve their income.
- (ii) Duanshi Village can obtain compensation cost for land acquisition of CNY0.4126 million. CNY0.3 million will be issued to affected family, the others will belong to village community.
- (iii) As for a few immigrants who hope to adjust land, village community will be responsible for adjusting the unused land of the village to immigrants in order to make them have equal contracted cultivated land with other villagers before the project construction.
- (iv) While carrying out other economic activities, labors of affected families take priority to be resettled in order to improve living standard of APs.
- (v) The rest land compensation cost will be used to improve the soil, to train affected immigrants and other villagers on technology, to guide farmers to plant excellent breed and to adjust cultivated method and agricultural structure, etc, which can sufficiently discover the cultivated potential so as to improve production and increase economic income of farmers.

5.1.3 Pingshang in Qinshui County

111. Pingshang has been acquired dry land of 15 mu which affected seven households and 27 people. Village committee promises to rehabilitate the living conditions of APs by the

following measures:

- (i) Sufficient unused land in the village will be adjusted to the affected family with equal acquired land so that contracted land after resettlement can be equal with other villagers;
- (ii) As for the household whose little land be acquired, the village will not adjust land any more if they hope to be compensated with cash. According to Shanxi Compensation Allocation Method for Acquired Farmers' Collective Land (2005), 80% of land compensation cost and all resettled subsidy will be divided into households, the rest of 20% will be subsistence in collectively economic organization of the village. Cultivated land in the village will not be adjusted any more.
- (iii) According to Shanxi Compensation Allocation Method for Acquired Farmers' Collective Land (2005), 80% of land compensation cost and resettled subsidy should be paid to the legal land contractors of affected villagers on the average; the rest should belong to collectively economic organization of the village.
- (iv) Pingshang Village can obtain land compensation cost of CNY0.4875 million. It is estimated that CNY0.3 million will be issued directly to affected families and all villagers.
- (v) The rest land compensation cost will be used to train villagers on technology, to guide farmers to plant excellent breed and to adjust cultivated method etc, which can sufficiently discover the cultivated potential so as to improve production and increase economic income of farmers.

5.1.4 Zhanglin in Xishangzhuang Street of Jincheng City

112. Zhangling has been acquired dry land of 6.75mu which affected 7 households and 28 people. Village committee promises to rehabilitate the living conditions of APs by the following measures:

- (i) Readjust cultivated land for affected families in the village;
- (ii) According to Shanxi Compensation Allocation Method for Acquired Farmers' Collective Land (2005), 80% of the land compensation cost and resettled subsidy should be paid to the legal land contractors of affected villagers on the average; the rest should belong to collectively economic organization of the village.
- (iii) Zhanglin village can obtain land compensation cost of CNY0.2822 million. CNY0.22 million will be divided into all affected villagers.
- (iv) The rest land compensation cost will be used to build irrigation work within the farms to (i) improve soil, (ii) train villagers on technology, (iii) guide farmers to plant excellent breed, and (iv) adjust cultivated method etc, which can sufficiently discover the cultivated potential so as to improve production and increase economic income of farmers.

5.1.5 Chengzhuang in Zezhou County

113. Chengzhuang has been acquired dry land of 2.61 mu and wasteland of 12.42 mu which affected four households and 17 persons. Village committee promises to rehabilitate the living conditions of APs by the following measures:

- (i) Readjust the cultivated land for the affected families in the village;
- (ii) According to Shanxi Compensation Allocation Method for Acquired Farmers' Collective Land (2005), 80% of the land compensation cost and resettled subsidy should be paid to the legal land contractors of affected villagers on the average; the rest should belong to collectively economic organization of the

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- village. Zhanglin village can obtain land compensation cost of CNY0.4389 million. CNY0.06 million will be divided into all affected villagers.
- (iii) The rest land compensation cost will be used to build irrigation work within the farms to (i) improve soil, (ii) train villagers on technology (iii) guide farmers to plant excellent breed, and (iv) adjust cultivated method etc, which can sufficiently discover the cultivated potential so as to improve production and increase economic income of farmers.

5.1.6 Jiuzhuang in Yangchang County

114. Jiuzhuang has been acquired dry land of 2.04 mu which affected two households and eight people. Village committee promises to rehabilitate the living conditions of APs by the following measures:

- (i) According to the affected villager's willing, resettlement measures will adopt cash compensation directly. According to Shanxi Compensation Allocation Method for Acquired Farmers' Collective Land (2005), 80% of the land compensation cost and all resettled subsidy will be divided into households, the rest of 20% will be subsistence in collectively economic organization of the village. Cultivated land in the village will not be adjusted any more. The affected households can adjust planting structure or develop commercial service with these compensation cost to rehabilitate and improve their income.
- (ii) Jiuzhuang village can obtain land compensation cost of CNY0.0816 million. CNY0.065 million will be issued to affected families, the rest will belong to the village.
- (iii) The rest land compensation cost will be used to train affected immigrants and other villagers on technology, to guide farmers to plant excellent breed and to adjust cultivated method and agricultural structure, etc, which can sufficiently discover the cultivated potential so as to improve production and increase economic income of farmers.

115. Because the resettlement plan and measurement of each affected village are made according to related law and regulations, actual situation of present land and economic level of the villages and suggestions discussed by the representatives of the villages and the project owner, is available and feasible. The objectives of rehabilitating and improving the living conditions of the affected persons must be achieved after project implementation.

5.2 Income Rehabilitation of Affected Persons for Temporary Land Occupation

116. Construction of Shanxi Qinshui CMM Development Project involves within temporary land acquisition of 1,217 mu, including dry land of 655.3 mu. Impact on villages by paving pipelines needs 6 months, so the project will affect cultivate income of 204 households and 752 members for 1 year.

117. For temporary land occupation, the affected households will be provided with compensation for the land and green crop, which is based on 1.5 times of AAOV for the occupation. The project owner will be responsible for the restoration of the cultivated land into their original productive conditions.

5.3 Resettlement of House Demolishment

118. According to the present work achievement, rural and urban house demolishment is not involved within the project.

119. During the construction period, if the house demolishment occurred, it should be

executed according to regulations of this report and ADB and submitted to ADB timely.

5.4 Rebuilding of the Roads

120. Shanxi Qinshui CMM Development Project involves temporary occupation and excavation of rural road of 3.6 mu and asphalt road of 33 km. The project owner will supply excavating compensation of CNY20/m² (CNY13,300/mu) to the land owner and provide the manager of asphalt road with excavating compensation of CNY130/m² (CNY86,700/mu).

5.5 Utilization and Monitoring of Land Acquisition Compensation

5.5.1 Utilization of Compensation Funds

121. Compensation cost for the land acquisition of the Project would be managed by the affected grass roots. According to the different attributive rights of the land, land acquisition compensation will be controlled by the village community and villagers in order to (i) rehabilitate production, (ii) resettle rest labors, and (iii) establish infrastructure, etc.

122. Compensation cost for the land acquisition and resettlement subsidy of the Project will be managed by the village community and villagers. Production rehabilitation of immigrants, compensation cost can be used on the following aspects after agreement by affected villagers:

- (i) Invest in the local infrastructure establishment, e.g., strengthen infrastructure of cropland; improve villages' irrigation establishments, built rural road so as to ameliorate traffic;
- (ii) Set up public welfare undertaking in the village;
- (iii) Invest in setting up projects of secondary industry and tertiary occupation so as to increase employment of many labors.

5.5.2 Safeguard Measurements of Compensation Funds

123. One month before the land acquisition implementation, village community will announce to all villagers about the compensation budget for land acquisition and investment plan through advertisement and broadcast. Two weeks before land acquisition, villagers' congress should be held to clarify and public the above plan and budget. Once the work of the land acquisition starts, utilization of involved resettlement funds and financial status should be issued on the call-board every month by the village community. If the compensation cost will be used to develop the projects of secondary industry and tertiary occupation, village community must investigate and analyze carefully so as to ensure better market conditions. And then submit to township government for approval. In addition, this development can be implemented with agreement from the affected villagers.

124. Village community will establish archive for compensation cost of land acquisition and investment plan. Materials in the archive must be real, with integrity and normative. Its storage life should be equal with the account book.

125. If the village community cannot public the finance, or the utilization of compensation funds cannot be transparenced sufficiently, Township government and other related departments in charge should charge village community to issue the above information within the deadline after receiving complaint from villagers.

6. Public Participation and Negotiatory Mechanism

126. In the process of resettlement policy preparation, resettlement action plan preparation and implementation, more attention to be paid on public participation and negotiation. We

widely hear suggestions from each social community, government, community and immigrant and encourage them to participate in resettlement. During the stage of Project preparation and feasibility study, Energy Institute of Shanxi Social Science Academy carried out the socio-economic survey of the Project area and encouraged the public to participate. During the design stage, the Project Construction Unit and Design Unit hears advice and recommendation from the local government, village community and representatives about the site selection of gas collection station, gas transmission station and pipeline paying and design plan. In the process of resettlement preparation, SECC asked the local government and immigrants' suggestion on resettlement plan and compensation policy and completed preparation of RAP under local government's assistance. During the project implementation, the Resettlement Office of SECC and Resettlement Administration of each county will encourage further the public to participate in the resettlement and production rehabilitation.

6.1 Public Participation During Project Preparation

127. In the process of the feasibility study of Project, project construction unit encourages the public to participate actively:

- (i) In August 2003, the Project Construction Unit consigns the Energy Institute of Shanxi Social Science Academy to carry out the socio-economic survey in Project Area, which symbolized the beginning of public participation of the Project. In the survey, missionaries widely propagandized the necessity of Project construction and resettlement policy, held conversations to hear the villagers' suggestions on the project construction and their willing be compensated and resettled, and knew women's social position and whether they take part in the public affairs.
- (ii) In October 2005, artians of the Project Construction Unit and Design Unit went to the Functional Department of each county (such as land, forest, communication and construction Department), affected County Government and affected village to ask related persons recommendations and suggestions. As for the site selection of gas stations and affected area by the Project, they balanced and confirmed further more.
- (iii) Aftertime, under the cooperation of local governments and related departments, the Project Construction Unit will hold conversations with the immigrants, leaders and women representatives (women representatives account for more than 30%) to hear their suggestions unceasingly.

6.2 Public Participation during Preparation of RAP

128. In the process of RAP preparation, the local government and immigrants take part in the following activities successively:

- (i) When we investigate the affected things by the project, we obtain great support and cooperation from the local government, Land Administration Department, villagers and immigrants.
- (ii) In October 2006, SECC held 5 conversations with more than 40 leaders and immigrant representatives in the affected village so as to carry out spot check of the affected persons. In this survey, SECC interviewed five immigrants at random and further asked their suggestions and requirements on resettlement policy (including production rehabilitation measurements and compensation policy of land acquisition).
- (iii) After optimization and adjustment of preliminary design in August 2008, while SECC carried out comprehensive socio-economic survey for the two new affected villages and affected households in October 2007, it held conversations with the two leaders and about 20 immigrant representatives to

participate in and asked their suggestions on detailed resettled measurements.

- (iv) In order to further know all the leaders and immigrants suggestions on the Project, in process of RAP preparation, authorized personnel adopts questionnaire in the affected areas so as to investigate the public participation and immigrants' suggestion. A total of 40 effective questionnaires that covers all the affected villages by land acquisition of Project. Due to the representatively investigated persons and high reliability of survey result, this survey can reflect local immigrant's willing factually. Result of immigrants' suggestion can be seen in Table 6.1; public participation can be seen in Table 6.2.

Table 6.1: Summary of Public's suggestion

No	Investigated Content	Options	Survey (%)
1	When do you know this Project?	(1) half a year ago	26.7
		(2) three months ago	35.6
		(3) one month ago	2.2
		(4) just now	35.6
2	How do you know this Project?	(1) newspapers	2.3
		(2) TV	15.9
		(3) radio	0
		(4) from relationships and neighbors	27.3
		(5) announced through meeting	13.6
		(6) be told by surveyor	40.9
3	Do you agree to construct this Project in your village?	(1) agree	97.8
		(2) disagree	0
		(3) don't know	2.22
4	What impact will be caused to your living environment by this Project?	(1) increase	44.4
		(2) decrease	26.7
		(3) no impact	28.9
5	What impact will be produced on economic development of your village by this Project?	(1) improve economic development	73.3
		(2) affect economic development	2.2
		(3) don't know	24.4
6	Do you think villagers can benefit from this Project?	(1) Yes	73.3
		(2) No	4.5
		(3) don't know	22.2

129. From the result of the public participation, we can know that all investigated persons are aware of the Project that will be constructed. 97.78% of the investigated persons indicate that they agree to construct this Project in their village; 73.33% think that the economy of their village can be improved by this Project; 73.33% regarded that villagers can benefit from this Project.

Table 6.2: Statistics of Public's Willing on Land Acquisition Compensation

Content	Options	Results (%)
1. If your land will be acquired, which	(1) cash compensation	47.8

compensation method do you want?	(2) permute land with equal area and quality	52.2
2. Do you know the national regulations and policy on compensation for land acquisition and property loss?	(1) know more	4.6
	(2) know much	11.4
	(3) know a little	15.9
	(4) don't know	68.2
3. If you know the related regulations and policy, how do you know these?	(1) project owner propagandized	26.9
	(2) government propagandized	19.2
	(3) village leaders propagandized	50
	(4) know form relationships and neighbors	3.9
4. If unfair treatment occurs to you during land acquisition, do you know how to appeal?	(1) Yes	13.6
	(2) No	86.4

130. From this survey result, before investigation, 68.2% of persons didn't know the related policy on land acquisition; 86.4% didn't know how to appeal if unfair treatment occurs during land acquisition. In allusion to this status, authorized personnel of RAP widely propagandized the related laws, regulations and policy. At the end of the investigation, all persons know the land acquisition policy and resettled measurements of the Project, and know how to appeal with legal method when their rights and interests are infracted. All of them hope that the compensation standard of this Project can be implemented according to related national and provincial documents.

131. As for the compensation method, 47.83% person hopes to be compensated through cash; 52.17% hope to be compensated by adjusting land.

(v) Aftertime, the Executive Institute and Implementation Institute of Land Acquisition and Removal will also propagandize resettlement policy and encourage the public to participate through the following ways:

(a) Propagandize Immigrants' Information

In order to ensure that immigrants in affected area and local government to know the detailed RAP and Compensation policy sufficiently, Project implementation agency also prepare to issue resettlement information through call-board or broadcast in affected village after ADB'S review. And then issue the information brochure to each immigrant. The brochure should include the following: all lost property; compensation standard; compensation amount and resettlement policy; immigrants' rights and interests; suggestion feedback and appealed channel.

(b) Hold Meeting

Meetings should be mainly arranged before compensation for land acquisition and resettlement so as to widely explain related policies, regulations and compensation standards, which can enable do related arrangements earlier.

(c) Propagandize the content of the project construction, schedule and resettlement policy through television, broadcast, and newspapers.

6.3 Public Participation during RAP Implementation

132. During this process, immigrants will be encouraged to participate.

(i) **Production Rehabilitation.** Affected villagers and representatives will take part in land adjustment and allocation;

(ii) **Management on Utilization of Land Acquisition Compensation Funds.** Land compensation funds belong to the collectivity of the village, any unit or

person can't subsistence or peculates. After the funds locate into the village, the funds should be controlled by collectivity so as to ensure special funds for special utilization. Funds can be used after agreement by the villagers and be monitored by the villagers' representative.

- (iii) **Project Construction.** Project Construction will cause some impact on the village more or less. In order to ensure that affected persons can benefit from the Project, persons will be encouraged to participate in the project construction actively. Within the same conditions, Project will give priority to local building materials and labors.

7. Institutional Arrangement

133. It is necessary to organize a completely institutional system during land acquisition and resettlement implementation, w main functions are to implement and execute plan and to monitor implementation process. Implementation plan includes compensation of land acquisition, resettlement of affected persons, income restoration and technical training for some affected persons and so on.

134. An institutional system has been prepared for the Project, which includes the project implementing agencies, executing agencies, monitoring agencies and its responsibilities. Details are summarized as follows:

7.1 Implementing Agencies

135. SECC is the implementing agency of Shanxi Qinshui CMM Development Project, which will be responsible for land acquisition, compensation and implementation of resettlement plan. At present, the Local Department is responsible for land acquisition and resettlement with three to four professional staff.

136. The Project management department of SECC established Resettlement Office with two staff that are responsible for the implementation and coordination of the land acquisition and resettlement, of which one is female. The main responsibilities of the implementing agencies are as follows:

- (i) Discussion with the design unit to minimize land acquisition and resettlement through suitable design and adjusted location;
- (ii) Consigning Energy Institute of Shanxi Academy of Social Science to carry out detailed socio-economic and land acquisition and resettlement investigation under the cooperation by responsible person of each county and village government;
- (iii) Applying for land utilization certification;
- (iv) Preparing budget and paying for land acquisition and resettlement cost;
- (v) Coordinating the implementation of land acquisition and resettlement, and keeping daily contraction with relative executing agencies of land acquisition and resettlement;
- (vi) Making plans for restoration of income and livelihood for affected persons;
- (vii) Conducting internal monitoring on RAP, and consigning the third agencies to conduct the external monitoring.

7.2 Executing Agencies

137. Executing agencies include Jincheng Development and Reform Commissions and Land & Resources Bureau, Development and Reform Commissions and Land & Resources Bureau of Yangcheng County, Qinshui and Zuzhou County, with main responsibilities as follows:

-
- (i) Coordinating with implementing agencies and Shanxi Academy of Social Science to carry out detailed land acquisition and resettlement investigation;
 - (ii) Coordinating with implementing agencies to negotiate land compensation and resettlement subsidies and to sign RAP Agreement and Compensation Agreement with county government and the affected persons ;
 - (iii) Arranging employment for affected persons together with the implementing agencies;
 - (iv) Providing the necessary help for affected persons during resettlement;
 - (v) Resolving grievance during land acquisition, compensation and resettlement process.

7.3 Leader Teams

138. The leader teams consisted of Jincheng Development & Reform Commission, Land & Resources Bureau and SECC, whose functions are to (i) guide, communicate and coordinate the work of land acquisition and resettlement, (ii) monitor and examine the implementation progress and the existing problems, and (iii) make resolved methods and appoint related departments to execute.

7.4 Monitoring Agencies

139. Compensation allocation of land acquisition are audited and monitored by the Agricultural Bureau of Jincheng City, Qinshui County, Yangcheng County and Zezhou County, with main functions as follows:

- (i) Resolving grievance problems about land acquisition compensation;
- (ii) Deciding whether to take the attached measures which are not listed in the RAP in order to realize the objectives;
- (iii) Examining whether each affect persons are suitably compensated and the living conditions of APs are rehabilitated after land acquisition;
- (iv) Making out land development to ensure suitable land permutation.

7.5 Resettlement Training Arrangement

140. It is very important to sufficiently train the staff on land acquisition and resettlement. The training needs 2 weeks, the training contents include principles, methods, and technical consultation and so on. During implementation, the resettlement office in SECC should regularly contact the various local government and implementing agencies in order to know the problems on time and then to submit the problems to leader groups so as to attract their attention.

141. One of the main responsibilities of the resettlement office staff is to conduct internal monitoring, its functions are included in Section 10 “internal monitoring”. The staff of the resettlement office will be provided with special training on engineering monitoring before the work of land acquisition and resettlement.

8. Grievance Procedures

142. The RAP should be carried out under the participation and suggestion of APs in order to minimize the grievance events. Meanwhile, to ensure that the affected people have avenues for redressing their grievances in the event that some issues occur related to any aspect of land acquisition, detailed procedures have been established for the Project. The grievance procedures can be as follows:

- (i) Affected people can appeal to the village committees;
- (ii) If the village committee cannot solve the issues, the problems can be taken to any of the following:

- (a) Shanxi Energy CMM Company Limited;
- (b) Relevant Township Government/Land Administration Office.
- (iii) Reply on the appeal should be made by the above agencies within 15 days;
- (iv) If AP is not satisfied with the response or if the complaint is of a serious nature, then the appeal should be submitted to Jincheng City Land and Resources Administration Bureau;
- (v) Jincheng Land Administration Bureau should reply the appeal within 30 days;
- (vi) If the AP is still not satisfied with the response then they have the legal right to submit the appeal to the court.

143. The APs can make an appeal for compensation on any aspects involved in RAP, including compensation rate of loss. The APs should be waived with any expense or administrative cost for making such appeal. The APs who submits their appeal to the court, should be entitled to legal consultation. The agencies who received the grievance should not get any costs, because the costs have been paid by Project Offices in the contingency cost.

9. Compensation Budget for Land Acquisition and Resettlement

9.1 Costs and Budget

144. The compensation for land acquisition and resettlement is included in the overall budget of the Project. The total cost of this component is estimated to be CNY15.492 million. The land acquisition and resettlement will be implemented in 2 years with 80% of the budget to be spent in the first year and 20% for the second year. The detailed cost budget is presented in Table 9.1

**Table 9.1: Land Acquisitions and Resettlement
Compensation for Shanxi Qinshui CMM Development Project**

Category of Cost	Items	Quantities	Unit	Average Unit Price(10 ³ CNY/mu)	Total (10 ⁴ CNY)
1. Compensation Cost for Permanent Land Acquisition	All kinds of lands	106.37	mu	2.68	285.55
2. Compensation Cost for Temporary Land Acquisition					
Green Crop Compensation	Farmland	655.3	mu	0.18	117.95
	Wasteland	524.7	mu		
Compensation of Road Rehabilitation	Rural Road	3.6	mu	1.33	4.79
	Asphalt Road	33	mu	8.67	286.11
Subtotal		1216.6			408.85
3. Other costs					
Resettlement Cost	3%of 1-2				20.83
Monitoring and Evaluation Cost	1.5%of 1-2				10.42
Vulnerable Assistance Fee					10.0
Training Fee					5.0
Subtotal					46.25
4. Contingencies	10% of 1-3				74.07
5. Other Taxes	All kinds of land	106.37	mu	6.905	734.48
Total					1,549.2

9.2 Flow of Funds

145. SECC will be responsible in providing funds for land acquisition compensation and resettlement under the Project. In accordance with the compensation policies and standard identified in the RAP, SECC will sign compensation agreements with the following units and disburse the payments for land compensation:

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- (i) Relevant counties or city land resources bureaus,
 - (ii) Relevant township government or village committees,
 - (iii) Affected families.

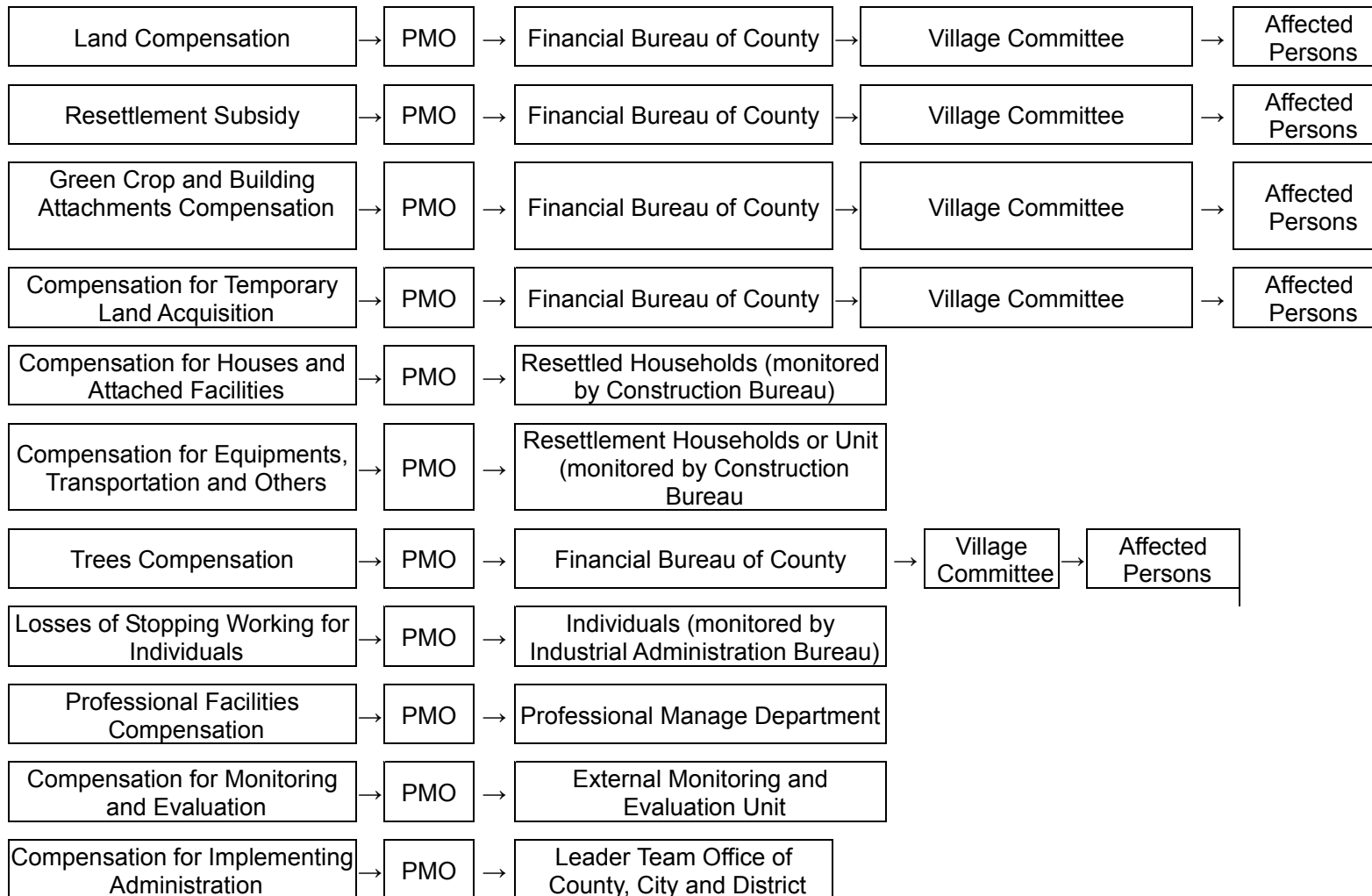
146. An external and independent auditor will audit the disbursement of land acquisition and resettlement fund.

9.3 Contingencies

147. The cost budget for land acquisition implementation include contingencies, with price contingency at 10% of total amount of compensation for permanent land acquisition, for temporary land acquisition and other costs.

148. SECC is responsible for providing adequate funds to carry out the implementation of the RAP. If there is external cost due to the added impact scope or objectives caused by adjustment of Shanxi resettlement policy and the changed design, it should be paid by SECC.

Fund Chart of Demolishment Compensation of Land Acquisition



PMO = project management office.

10. Monitoring and Evaluation

149. The objectives of monitoring and evaluation are to (i) assess if the compensation for land acquisition and resettlement plan is implemented on schedule, and within budget and (ii) if the objectives and principles of the RAP are achieved. The main content of monitoring and evaluation are as follows:

- (i) Monitor the progress and effectiveness of RAP implementation,
- (ii) Ensure that the living standards of APs are restored or improved,
- (iii) Assess if resettlement measures and compensation methods are sufficient,
- (iv) Find the existing or may be occurred problems in time, and
- (v) Review if the related measures can resolve problems.

150. A monitoring and evaluation program will, accordingly, be implemented to

- (i) Record and assess project inputs and the number of affected and compensated persons; and
- (ii) Identify original subsistence levels and living standards are being re-restored and rehabilitated;
- (iii) Specifically, monitoring and evaluation should focus on the following aspects of the AP:
 - (a) Land acquisition procedures,
 - (b) Compensation payments,
 - (c) Economic situation prior to and after land acquisition,
 - (d) Restoration or rehabilitation of income levels.

151. Monitoring and evaluation should include (i) establishing socio-economic background data of the APs before land acquisition and (ii) regular monitoring of their situation for a period of 2 years after land acquisition. In addition, sustainability of living standards of the APs should be evaluated at least before the beginning of the project.

152. During the implementation of the RAP, internal and external monitoring will be undertaken at the same time. Internal monitoring will be undertaken every 6 months. After land acquisition, monitoring will be undertaken internally every 12 months. The independent monitoring agency will undertake external monitoring every 6 months. The monitoring information will be collected from three sources: (i) affected persons; (ii) affected villages and townships (counties and streets); and (iii) Shanxi Energy CMM Company Limited. The external monitoring agency will also carry out a comprehensive socio-economic survey to provide background materials for the restored living standards and conditions of the APs after land acquisition and make impact analysis by using base line data collected. Table 2.9 (35 sample households). External monitor should pay high attention to those who are economically disadvantaged such as household numbers 15, 19, 20, 29, 30 and 31 under the 35 sample households. A monitoring report will be prepared by the independent monitoring agency, including (i) conclusion of evaluation; (ii) major existing and potential problems; and (iii) recommend mitigation or prevention measures for potential problems.

11. Implementation Schedule

153. Based on the construction schedule of the Projects, a preliminary compensation for land acquisition and resettlement schedule would be prepared, which is based in consideration of the linkage between land acquisition tasks and civil works construction tasks and is consistent with the project implementation schedule. All of the land acquisition activity will be carried out within the first half year of the Project construction. Land acquisition for this project will be completed 1 month before the start of the civil work construction.

154. Before the APs referred the land, the proposed schedule is expected to ensure that all APs have:

-
- (i) adequate knowledge about the Project, its impacts and compensation;
 - (ii) received compensation cost in a timely manner.

155. At present, because the project has not been evaluated finally, the detailed date of RAP schedule and arrangement cannot be ensured. Even if the date is made, it may be adjusted according to the Project progress.

LAND ACQUISITION AND RESETTLEMENT PLAN SCHEDULE

No	Activities	Date/Schedule	Responsible Agencies
1	Establish Resettled Leading Group	November in 2006	Jincheng Development and Reform Commission, Jincheng Land and Resources Bureau, Planning and Development Bureau and Land and Resources Bureau of related county
Approval of Project Proposal by NDRC			
2	Pre-examination and approval of land utilization	Sep in 2005, Sep 2007	Land and Resources Bureau of Jincheng City and the County, Land Administration Office of the Township
3	Disclosure of resettled information (compensation policy) to all affected villages in newspaper and township offices	Sep in 2006	Jincheng Development and Reform Commission, Jincheng Land and Resources Bureau, Planning and Development Bureau and Land and Resources Bureau of related county
4	ADB approves draft RP and uploading to website	Nov 2006	PIA, Land and Resources Bureau of Jincheng City and the County, Land Administration Office of the Township
Approval of Feasibility study			
5	Prepared preliminary design	Dec in 2005	PIA, North China Municipal Engineering Design and Research Institute
6	Prepared land acquisition application report (based on redline)	In Mar 2006	Project Implementation Agency
7	Submission and approval of land acquisition application (national, municipal, Country and Ministry of Land and Resource)	In Oct 2006, Oct 2007	PIA, Land and Resources Bureau of Jincheng City and the County, Land Administration Office of the Township
8	First formal notification of Land Acquisition Plan to Affected People and village consultation	In Sep 2006, Sep 2007	PIA, Land and Resources Bureau of Jincheng City and the County, Land Administration Office of the Township
Completion of detailed design			
9	Organize resettled staff in the affected townships and villages; and establish grievance compensation system	Oct in 2006	PIA, Land and Resources Bureau of Jincheng City and the County, Land Administration Office of the Township

No	Activities	Date/Schedule	Responsible Agencies
10	Engage external monitor for resettlement; conduct baseline survey for 10% of affected households	Nov in 2007	PIA Shanxi Academy of Social Science
11	Local Land and Resources Office, ADB and external monitoring agency conduct training for resettled persons; land acquisition will be approved by land and resources department	Dec in 2006	Land and Resources Bureau of Jincheng City and the County, Land Administration Office of the Township and ADB
12	Conduct detailed measurement survey for compensation based on detailed design, identify all affected households(census inventory)	Dec in 2007	PIA, Shanxi Academy of Social Science
13	Prepare income rehabilitation plans for seriously affected villages	Dec in 2007	PIA, Shanxi Academy of Social Science
14	Approval of compensation rates and 2nd notification of Land Acquisition Plan to APs indicating actual impacts and compensation	Dec in 2007	PIA, Shanxi Academy of Social Science
15	Verification meetings with representative of all affected groups, if requested	Dec in 2007	PIA, Shanxi Academy of Social Science, County Government
16	Identify households that are eligible for special assistance (vulnerable groups and seriously affected households at risk)	Jan in 2008	PIA, Shanxi Academy of Social Science, County Government
17	Signing agreements with affected villages and groups	Jan in 2008	PIA and County Government
18	Updating RP (including relocation sites); disclosing information to local officials and affected villages and submit to ADB for approval	Feb in 2008	PIA and County Government
19	Revision and finalization of RP based on ADB comments	Mar in 2008	PIA
20	ADB approval of RP and uploading to website; to implement after approval of project (after submission of civil works bid evaluation report to ADB for approval) This has to be done before transferring the land to project owner. Please refer to below 24.	Apr in 2008	PIA and ADB
21	Payment of compensation funds to Local Land and Resource Office	Apr in 2008	PIA
22	Payment of land compensation to APs	Apr in 2008	PIA, Land and Resources Bureau of Jincheng City and the County, Land Administration Office of the Township
23	Transfer of land ownership to Project Owner (start date)	Apr in 2008	PIA, Land and Resources Bureau of Jincheng City and the County, Land Administration Office of the Township

ADB = Asian Development Bank, AP = affected person, PIA = project implementing agency, RP = resettlement plan.

CORRELATION TABLE OF IMPACT BEFORE AND AFTER ADJUSTMENT AND OPTIMIZATION OF PROJECT CONSTRUCTION

Project	Quantity (per,km)		Permanent or temporary land acquisition(mu)										AC		AT		AV		AP			
	AA	BA	After adjustment					Before adjustment					AA	BA	AA	BA	AA	BA	AA		BA	
			Total	F	W	C	R	Total	F	W	C	R							HH	P	HH	P
Gas collection and transmission stations	7	8	106.37 (P)	85.5	18.62	2.25		107.54	95.53	9.76	2.25		4	4	4	5	7	8	54	213	59	231
Pipelines	67.22 km	83.69 km	1216.6 (T)	655.3	524.7		36.6	1883	1024	816.1		42.9	2	4	4	9	33	52	204	752	309	1125

AA = after adjustment, BA = before adjustment, AC= affected county, AT = affected township, AP= affected persons, C = constructed land, F = farmland, HH=household, P=persons, R = road, W = wasted land.

Attachment:

Interview Record One of Affected Villagers

Site: Cheng Minglai's family of Jiafeng

Date: 20 October 2005

Interviewing Persons: Yan Zhiqiang, Yan Bing and Wang Yongfang from SECC

Interviewed Person: Cheng Minglai

The staff of SECC introduced demolition content, suitable regulations, policies and compensation methods of resettlement of Shanxi Qinshui Coal Mine Methane Development Project to this villager. He supports and understands this project. He thinks that CMM utilization can improve his living conditions and believes this project can enhance local economy after construction. He hopes that (i) employment opportunities can be supplied to his family members during construction and after construction, (ii) hopes to resolve the decreased farmland caused by land acquisition through adjusting the collective land in its villages, (iii) hopes that staffs can legally work during the land acquisition to guarantee his entitlement in maximum, (iv) hopes to get sufficient compensation timely; and (v) hopes to receive preferred price of gas utilization. Staff answered his questions after hearing his advice and suggestion and emphasized that if there are any complaints, more requirements and grievance could be appealed through various means such as writing letters, making phone calls and visiting to various offices, including Shanxi Energy Industrial Group, SECC and relevant municipal, county, township and villages governments and commissions, in order to resolve existing problems during land acquisition compensation and to ensure entitlement of each affected persons.

Interview Record Two of Affected Villagers

Site: Mao Mingtai's family of Pingshang

Date: 21 October 2005

Interviewing Persons: Yan Zhiqiang, Yan Bing and Wang Yongfang from SECC

Interviewed Person: Mao Mingtai

Staff of SECC introduced suitable regulations, policies and compensation methods of resettlement and demolished contents to this villager. He understands this project, and believes this project can enhance local economy development and make some questions and hopes. He hopes the village can adjust contracted land after land acquisition to remedy his losses; hopes to acquire land and compensate legally according to related laws and regulations; hopes to receive compensation timely and to arrange jobs for his family members after construction. Staff know his compensation willingness and told them that if there are some questions during land acquisition, more requirements and grievance could be submitted through various means such as writing letters, making phone calls and visiting to various offices, including Shanxi Energy Industrial Group, SECC and relevant municipal, county, township and villages governments and commissions, in order to resolve questions timely.

Notification of Jincheng Development & Reform Commission on Public Hearing Minutes for Pipelines Routes of Shanxi Qinshui CMM Development Project

Public Hearing Minutes for Pipelines Routes of Shanxi Qinshui CMM Development Project

SECC'S Allocation Plan of Land Acquisition Compensation for Gaojiang of Xishangzhuang District Office

Compensation Agreement of Land Acquisition Signed by Jiuzhuang in Fengcheng of Yangcheng County and Land and Resources Bureau

Documents of each attachment can be seen in PDF.