

**World Bank Financed Hubei Inland River Shipping
Capacity Improvement Project**

Social Assessment Report

**Project Management Office of Hubei Inland River Shipping
Capacity Improvement Project**

June, 2016

Table of Contents

Executive

Executive Summary	4
1 Social Impact Assessment	10
1.1 PROJECT OBJECTIVES	10
1.2 PROJECT SCOPE	11
1.3 PROJECT IMPLEMENTATION	12
1.3.1 IDENTIFICATION OF STAKEHOLDERS	12
1.3.2 IMPACT AND SOCIO-ECONOMIC SURVEY	13
2 Social and Economic Background	16
2.1 OVERVIEW OF PROJECT AREA	16
2.2 SOCIAL AND ECONOMIC DEVELOPMENT OF PROJECT AREA	17
2.2.1 YICHENG'S ECONOMIC DEVELOPMENT	17
2.2.2 ECONOMIC DEVELOPMENT OF AFFECTED TOWNSHIPS	18
2.2.3 ECONOMIC DEVELOPMENT OF AFFECTED VILLAGES	20
2.2.4 BASIC INFORMATION OF AFFECTED FAMILIES	21
3 Social Impact Analysis	23
3.1 POSITIVE IMPACT	23
3.1.1 POSITIVE ECONOMIC IMPACTS	23
3.1.2 POSITIVE SOCIAL IMPACTS	25
3.2 POTENTIAL IMPACT	26
4 Impact on Displaced Persons	40
4.1 RESPONSE TO CONSTRUCTION SUSPENSION ORDER	40
4.2 DMS STANDARD'S IMPACT ON DPs	40
4.3 RESETTLEMENT OF DISPLACED HOUSEHOLDS	41
4.3.1 RESETTLEMENT OF DISPLACED RESIDENTS FROM FISHERMEN'S COOPERATIVE OF YAKOU VILLAGE	41
4.3.2 COMPENSATION AND REHABILITATION FOR DISPLACED HOUSEHOLDS IN THE RESERVOIR AREA ..	47
4.3.3 RESETTLEMENT AND COMPENSATION FOR NON-RESIDENTIAL STRUCTURES	47
4.4 RESETTLEMENT AND REHABILITATION OF PAPs	48
4.5 COMPENSATION AND REHABILITATION OF AFFECTED ENTERPRISES	49
4.6 COMPENSATION AND REHABILITATION OF AFFECTED SPECIALIZED FACILITIES	49
4.6.1 REHABILITATION OF WHARF	49
4.6.2 REHABILITATION OF PUMPING STATIONS	50
4.6.3 REHABILITATION OF SLUICE GATES	50
4.6.4 REHABILITATION OF OTHER SPECIALIZED FACILITIES	50
4.7 RESETTLEMENT OF VULNERABLE GROUPS	51
5 Project Impact on Local Residents	52
5.1 LAND RESOURCES	52
5.2 PRODUCTION AND BUSINESSES OF LOCAL RESIDENTS	52
5.3 LABOR DISTRIBUTION OF LOCAL RESIDENTS	53
5.4 INCOME OF LOCAL RESIDENTS	53
5.5 IMPACT OF LAND OCCUPANCY ON HOUSEHOLD INCOME	54

5.5.1 IMPACT OF LAND OCCUPANCY	54
5.5.2 IMPACT OF LAND OCCUPANCY ON A TYPICAL HOUSEHOLD AND ITS INCOME	54
6 Project Impact on Gender	57
6.1 STATE OF WOMEN DEVELOPMENT IN PROJECT AFFECTED AREA	57
6.2 PROJECT IMPACT ON LOCAL WOMEN	59
6.2.1 POTENTIAL IMPACT ON WOMEN'S ECONOMIC PARTICIPATION	59
6.2.2 PROJECT IMPACT ON WOMEN'S EDUCATION AND MARRIAGE	62
6.2.3 WOMEN'S ATTITUDES ON THE PROJECT AND ITS IMPACT	62
6.2.4 WOMEN'S POTENTIAL METHODS OF EXPRESSION WHEN THEIR INTENTION TO PARTICIPATE CANNOT BE REALIZED	64
7 Public Participation	67
7.1 RESULTS OF PUBLIC PARTICIPATION	67
7.1.1 KNOWLEDGE ABOUT THE PROJECT	67
7.1.2 PROJECT AND OPPORTUNITIES	67
7.1.3 ATTITUDE TOWARD LAND ACQUISITION AND RESETTLEMENT	67
7.1.4 EXPRESSION OF OPINIONS ON LAND ACQUISITION AND HOUSE DEMOLITION	70
7.2 PUBLIC PARTICIPATION PLAN	70
8 Social Management Plan	71
8.1 EXPAND POSITIVE IMPACTS OF THE PROJECT	71
8.2 MINIMIZE ADVERSE IMPACTS OF THE PROJECT	72
8.3 PROMOTE DEVELOPMENT OF LOCAL RESIDENTS	75
8.4 PROMOTE GENDER DEVELOPMENT	80
8.5 THE OBJECTIVE AND IMPLEMENTATION OF PROJECT'S SOCIAL MANAGEMENT PLAN	81
8.5.1 THE OBJECTIVE OF PROJECT'S SOCIAL MANAGEMENT PLAN	81
8.5.2 THE IMPLEMENTATION OF THE PROJECT'S SOCIAL MANAGEMENT PLAN	81
8.6 RESETTLEMENT ORGANIZATIONS	82
8.6.1 INSTITUTIONAL ARRANGEMENT	82
8.6.2 RESPONSIBILITIES OF RESETTLEMENT INSTITUTIONS	83
8.6.3 SCHEDULE	85
8.7 PROJECT MONITORING	86
Appendices	87

Executive Summary

The World Bank Financed Yakou Shipping Hub Project is located in the section from Danjiangkou to Zhongxiang in middle reaches of the Han River and at 15.7m downstream of Yicheng City of Hubei Province. It is 203 km away from the Danjiangkou hydro-junction and 446km away from Hekou. This project is the sixth key hydro-power development project in main stream of Han River. Its location is 52.67km downstream from Cuijiaying hydro-junction and 59.38 km upstream from Nianpanshan hydro-junction.

According to *Overall Planning of Comprehensive Development in Han River Basin of Hubei Province (2011-2020)*, Yakou Shipping Hub Project is one of the key hydro-power development projects in the main stream of the Han River. By 2020, six key hydro junctions (namely Wangfuzhou, Xinji, Cuijiaying, Yakou, Nianpanshan, and Xinglong hydro-junctions) will be built downstream from the Danjiangkou Reservoir. These hydro-junctions can ensure that the ecological environment along the Han River main stream will be protected. They also ensure irrigation, power generation, shipping, domestic water supply, and water supply for production. With these hydro-junctions, water resources will be efficiently used and many benefits will be created. As a result of these hydro-junctions, comprehensive development of the Han River main stream will be achieved.

The Yakou Shipping Hub Project focuses on shipping, along with the overall benefits of power generation, irrigation, and tourism. The project's construction includes a 1,000t ship lock, 40-hole sluice, power house, earth dam, and fishways. Construction of Yakou Shipping Hub may form a 52.67km third-class channel in the Han River. When the Yakou Shipping Hub is built, the power station will have an installed capacity of 75.6MW and an annual electricity generation capacity of 324 million kw.h. The project entails a total static investment of 2.7 billion Yuan, of which 150 million USD will come from the proposed World Bank loan. The construction is expected to last for 58 months.



Project's social and economic profile

Yicheng, where the project is located, is a county-level city under the jurisdiction of Xiangyang. Located in the northwest of Hubei Province and along the middle reaches of the Han River, Yicheng covers an area of 2,115km², with an east-to-west length of 76km and a south-to-north width of 53km. It has jurisdiction over eight towns, two sub-districts, one industrial park, and one provincial-level economic development zone. By the end of 2014, Yicheng's total registered population was 567,493 and permanent population was 520,200. In 2014, Yicheng's realized total revenue of 2,137,430,000 Yuan, and general budgetary revenue of 1,908,290,000 Yuan. Of 2,137,430,000 Yuan, 125,020,000 Yuan was central tax revenue and 1,061,030,000 Yuan was local tax revenue. In 2014, average disposable cash income of Yicheng residents was 16,947 Yuan. The average disposable income of urban residents was 22,243 Yuan, of which 1,343 Yuan was the average consumption expenditure of urban residents. Urban residents' expenditure on food accounted for 36.9% of their total consumption expenditure. Average construction area of residential houses of urban residents was 49.95m². Average net income of rural residents was 13,263 Yuan. Rural residents' average spending on living was 10,057 Yuan. Rural residents' expenditure on food accounted for 38.4% of their total consumption expenditure. Rural residents averagely own construction area of 47.02 m².

With regard to the townships and sub-districts within the project area, Yancheng sub-district, located in Yicheng, has a relatively large non-agricultural population; whereas other townships are of typical rural economic and social structures.

Cultivated land owned by rural people on average varies. In Liushui Town, cultivated land per person exceeds 3 mu (1mu=666.67m²), while in other townships, cultivated land per person exceeds 1.65 mu. The project area has a relatively large area of cultivated land in Hubei Province.

With regard to the employment distribution within the project area, about one third of rural employees engage in agricultural production in their respective townships, while the remaining two thirds of rural laborers engage in production and business of the industrial sector and service sector. In Liushui Town, 45% of laborers serve in the industrial sector and service sector, whereas in other towns, nearly or over 50% of laborers seeks jobs or do business outside their respective towns. In 2014, farmers' average net income ranged from 11,000Yuan to 13,000Yuan, and it was higher in Yancheng Sub-district, Zhengji Town, and Liushui Town than that in Wangji Town, Nanying Sub-district, and Xiaohe Town. Traditionally, Yicheng has been known as a “little giant” in agriculture, because some of its townships boast the distinctive production and processing of agricultural and sideline products and have formed a pattern of “one product of one town” and “one specialty of one village”. Within the project area, Liushui Town is known for growing watermelon and Zhengji Town is known for raising ducks and duck-related products processing, whereas Wangji Town and Nanying Sub-district are known for growing vegetables on a large scale.

Social impact analysis

The project's impact on the economy, society, ecology, environment, and culture has been analyzed from a macroscopic view.

With regard to the project's positive impact, the project improves the waterway of the Yicheng segment of the Han River, enhancing the shipping capacity of Han River; it optimizes the modes of transport in the area, reducing the cost of transport; it increases power supply to its surrounding areas; it increases the probability of irrigation for its surrounding farmland, improving the environment for agricultural production; it accelerates Yicheng's urban development, improving the environment for living and production; it promotes the development of the shipping industry in Hubei, boosting the economy of the areas along the upper and lower reaches of the Han River; it creates a large number of job opportunities in the local area, and

develops and upgrades local industries, raising the living standard of local residents.

With regard to the project's potential negative impact, project construction may reduce fishery resources, disrupting fishery production and reducing the income of fishermen; it may increase the negative impact on the vulnerable and poor population in the project area; it may disrupt agricultural production of local women, reducing their incomes; it may harm the health of residents living nearby, damage their living environment, and disrupt public security.

Impact on displaced persons

Displaced persons in the project area generally support the project. They generally believe that they will benefit from the project, so they do not obstruct project construction by requesting the construction to be halted.

Some villagers in the project area cannot understand units of measure in the DMS standard, so they tend to be skeptical about the results of measurement and feel that their interests may be undermined.

According to the resettlement plan for households affected by the project, different methods of resettlement and compensation based on different uses of private structures of displaced persons will be adopted.

The method of "land reclamation by lifting the field" will be used to minimize the affected farmers' land loss caused by the project.

Funds and help will be given to the affected enterprises and facilities for their rehabilitation and reconstruction.

Impact on local residents

In the project area, local residents primarily engage in agricultural production, along with non-agricultural activities. In a family, members have their respective tasks, some primarily engaging in agriculture and some engaging in non-agricultural sectors outside their hometown. As a result, incomes from agricultural production still dominate a family's total incomes, while incomes from non-agricultural employment are increasing.

During construction, the project may impact the land resources in the affected area. Though the method of “land reclamation by lifting the field” can reduce the impact of construction on the land resources, the impact may be serious in the short term. In the long term, construction may reduce the total area of cultivated land. Therefore, the project will affect local residents’ production, business, working hours, and income structures.

Gender and social development

Within the project area, females are generally under-educated, because they primarily engage in agricultural production and housework. Their incomes primarily come from farming.

The project affects local women in the following aspects: 1. As project construction uses land, it will reduce female’s contribution to the incomes of her family. 2. Project construction is likely to reduce a female’s role in business services. 3. Project construction may create opportunities for local women to engage in non-agricultural economic activities.

In general, women in the project area support the project. They hope that compensation standards can be open and transparent and can meet or exceed their expectations.

Public consultation and participation

The Yakou Shipping Hub Project Management Office organized a number of socio-economic surveys, polls, and public consultations. When preparing for the project and formulating Resettlement Action Plan and Environmental Impact Assessment, the office has held public participation activities in the form of questionnaires, field surveys, interviews with key informants, and meetings of stakeholders. In addition, the Project Management Office (PMO) has also formulated public participation plans for different stakeholders. Effective measures will be adopted to facilitate public participation and consultation during the preparation, implementation, and operation of the project.

Social Management Plan

The PMO has developed a detailed social management plan in an effort to increase the project's positive effects and prevent or minimize the risks and impact of project construction on stakeholders. The PMO focuses on the displaced persons in the inundated reservoir area and hub construction site and local residents in the project construction area, especially the development of women and poor and vulnerable groups. Project Implementation Organization and relevant supervising agencies will be set up to ensure that both the project and RAP will be successfully implemented.

1 Social Impact Assessment

1.1 Project objectives

With regard to social impact assessment, information concerning the project's social impact and risks will be collected and analyzed as much as possible during preparation for the project. With widely public participation, the advice and opinions of stakeholders will be solicited and reported to the PIU (Project Implementing Unit) and relevant departments, so that they may take effective measures to prevent or minimize the project's negative impact on society and minimize the project's social risks. As a result, they may increase the benefits of the project and enable the project to promote social development in the project area and to facilitate the harmonious development of the local economy and environment, maximizing the project's social and economic benefits. Social impact assessment aims to ensure that the World Bank security policy and the rights stipulated in the policy that are related to the population affected by the project are better implemented. It also aims to ensure that relevant China's policies are implemented so that the World Bank Financed Hubei Inland River Shipping Capacity Improvement Project can be successfully implemented. Social Impact Assessment includes the following tasks:

- ① Surveying and understanding the socioeconomic status and stakeholders in the project area as well as stakeholders' attitude towards the project;
- ② Identifying the main social factors that affect implementation of the project;
- ③ Identifying the main social risks that may be caused by implementation of the project;
- ④ Providing advice on how to enable the project to benefit the public, especially the poor, based on public participation;
- ⑤ Offering advice on how to optimize other projects and prevent/minimize social risks.

1.2 Project scope

The hub construction project is a water conservancy project. This assessment mainly evaluates the social impact of project on hub construction area and surrounding area which includes the effects on local resident's daily life during the construction process and the social and economics impacts on local economy and Han-River basin, Hubei Province, when the project completion is met. So the aim of this social assessment project is to investigate the impacts of the hub construction on resident's production and living conditions, the local economic development and the social development condition of Han-River basin in Hubei Province.

This construction project is located in Yicheng, a county-level city over which Xiangyang City of Hubei Province has jurisdiction. It is a water conservancy project. When the project is completed, the impoundment of the reservoir area will be retained by the current Han-River levee.

The Yakou Project's inundated reservoir area and hub construction area involves Yicheng City, Xiangyang District of Xiangyang City, and New Dongjin District Xiangyang City, totaling 3 county-(city) level divisions, 8 townships and township-level divisions, and 36 village-level divisions. In both Xiangyang District and New Dongjin District, backwater has inundated the beaches on both sides of the river course retained by the Han River levee. The inundated area and occupied land area, which involve 6 townships and sub-districts and 24 villages, are larger in Yicheng than in other areas. Located 15.7km downstream from Yicheng, the Hub dam site involves Yicheng's two townships and three villages, namely Yakou Village of Liushui Town on the left bank, and Heluo Village and Maocao Village of Zhengji Town on the right bank. In addition to the water reservoir project and the Hub dam construction project, a drainage project is underway for eliminating the inundation of farmland along both banks when water is impounded after the project is completed. The drainage project involves some areas along both banks of the Han River. Construction of floodways on the left bank involves 11 villages of Wangji and Nanying townships of Yicheng; construction of Yidao floodway involves 12 villages of Yancheng Sub-district and Zhengji Town.

When the completion of construction project is met, the improvements of Han-River shipping services and regional power grid are expected. It will also benefit the social and economic development of Yicheng and Han-River basin, Hubei

Province.

1.3 Project implementation

1.3.1 Identification of stakeholders

(1) Identification of stakeholders

Identifying stakeholders is a prerequisite for the effective social impact assessment. By surveying the project area and looking at the information provided by the project design department, we identify the stakeholders of the project as follows:

- DPs;
- Local residents in the project construction area
- PIU
- design institute, construction contractor, and supervising agency
- Governments and relevant functional departments involved in the project
- Other stakeholders

The main stakeholders of the project include displaced persons in the inundated reservoir area and hub construction area, and local residents in the project construction area, especially women and the poor and vulnerable groups in these areas.

(2) Stakes

Different stakeholders are affected by the project differently and they have different interests concerning the project. By analyzing project requirements, we will be able to identify the project's key social impact and prevent potential social risks, so as to ensure that resettlement is successfully implemented and project construction proceeds smoothly. Through interviews, questionnaires, and field surveys, we identify the interests of affected local residents as follows:

A. Displaced persons of the inundated reservoir area and hub construction area

Displaced persons in the inundated reservoir area and hub construction area are the main stakeholders of the project. They are both the beneficiaries and victims of the project. During project construction and the implementation of RAP, these

displaced persons have the following interests-related expectations. First, they expect that the loss of their housing due to project construction can be reasonably compensated. Second, persons whose only house is to be demolished hope that they can be properly compensated with resettlement house. Third, displaced persons who own profitable non-residential structures hope that they can be compensated in cash and their business can be resumed after the project is completed.

B. Local residents in the project construction area

Local residents in the project area are the main stakeholders of the project too. The largest impact of the project on these residents is the loss of productive resources that is caused by land acquisition. During project construction and the implementation of RAP, these local residents have the following interests-related expectations. First, they expect that they can re-obtain land resources as many as possible. Second, they expect that the loss caused by land acquisition can be minimized. Third, they hope that the re-obtained farmland can meet the farming need. Fourth, they expect that the loss caused by land acquisition can be properly compensated.

1.3.2 Impact and socio-economic survey

From July through August of 2015, Hubei Provincial Communications Planning and Design Institute organized workers from local governments and government agencies to form a joint investigation team to investigate the 55.22 m normal water storage plan and the recommended project layout plan. Between September and October of 2015 after the investigation, the Institute reviewed the investigation result and made it public.

Inventory survey includes the survey of the impact brought about by rural land acquisition, survey on enterprises and public institutions, and special survey.

Survey on the impact caused by rural land acquisition entails population, house and accessory structures, land, water conservancy facilities, agricultural and sideline production facilities, the cultural, educational, and health service facilities, and other items (e.g. sporadic trees, tombs, phones, and cable TV).

Survey of enterprises involves an enterprise's name, nature, registered capital, location, floor space, number of employees and their family members, and amounts of infrastructure and equipment, as well as main products, annual output, annual output value, annual salary, annual profit, annual tax, and other technical and economic

indicators.

Special survey involves traffic engineering facilities, power transmission and transformation facilities, telecommunications engineering facilities, radio and television broadcasting facilities, pipeline facilities, state-owned farm (forestry, pasture, and fishing ground), cultural relics and historic sites, scenic areas, natural reserves, gauging station, mineral resources, and other items.

When investigating the impact of the project, different organizations have also conducted a number of socio-economic surveys and resettlement preference surveys within the project area for the purpose of compiling resettlement planning reports, social risk assessment reports, and social impact assessment reports. These surveys are as follows:

1. The social risk assessment organization for this project conducted questionnaires for local residents with regard to social stability risks in 8 townships in August of 2014. Random surveys of the villages which were largely affected by land acquisition were conducted and a total of 313 valid questionnaires were collected. A total of 18 valid questionnaires for 18 relevant organizations and enterprises with regard to social stability risks were collected.

2. Hubei Provincial Communications Planning and Design Institute conducted socio-economic surveys for the project while conducting the field survey from July to August of 2015. The institute collected the information of 86 groups of villagers from 18 villages affected by the project. Such information concerns natural resources locally and the villagers' financial conditions. In addition, the institute held meetings for each group of villagers as a way to understand the affected populations' resettlement preferences.

3. In December 2015, Wuhan University organized a survey team to investigate the project's social and economic impact in the affected area identified by the design department.

The survey of the project's social and economic impact includes the following:

- 1) Data collection

- a. including the social and economic statistics of Yicheng and the project area
- b. Collecting the laws, regulations, and policies of China, Hubei, and Yicheng that are related to land acquisition, house demolition, and resettlement, as well as Yicheng's policies on resettlement for similar projects

2. Socio-economic survey

a. Surveying the basic social and economic situation in Yicheng, Xiangyang and Hubei Province.

b. Surveying the affected families in the project area, especially the vulnerable families

c. Public opinions and advice

d. Surveying the population, labor force, industrial mix, and cultivated land of the villages affected by the project.

Through the aforesaid surveys, PMO has collected the general information of all affected families. In addition, PMO conducted random surveys in the form of questionnaire for the families affected by land acquisition and house demolition in accordance with the World Bank policy on involuntary resettlement. The general information of 118 affected families with regard to family members, property, economic activities, incomes, expenditures, and resettlement preferences has been collected.

During preparation for resettlement of the project, all households whose structures are to be demolished have been surveyed; 19% of the households whose land is to be permanently acquired have been surveyed; 8.7% of the families whose land is to be temporarily occupied have been surveyed.

Table 1-1 Socio-economic survey samples

Type of impact	Quantity of affected households	Survey samples (number of households)	Percentage of samples (%)
Structures and attachments to be demolished	72	72	100
Permanent land acquisition	428	82	19.16
Temporarily land occupation	3401	296	8.70
Total	3901	431	11.05

2 Social and Economic Background

2.1 Overview of project area

Yakou Shipping Hub Project is located in Yicheng, a county-level city over which Xiangyang City of Hubei Province has jurisdiction. It is a water conservancy project. When the project is completed, the impoundment of the reservoir area will be retained by the current Han-River levee. The total inundated area will be 99,495.03mu, of which 71,911.0mu is water area and 27,584.03mu is land area.

The Yakou Project's inundated reservoir area and hub construction area involves Yicheng City, Xiangyang District of Xiangyang City, and New Dongjin District of Xiangyang City, totaling 3 county-(city) level divisions, 8 townships and township-level divisions, and 36 village-level divisions. In both Xiangyang District and New Dongjin District, backwater has inundated the beaches on both sides of the river course retained by the Han River levee, covering an area of 2,153mu and involving 12 township-level villages. The inundated area and occupied land area, which involve 6 townships and sub-districts and 24 villages, are larger in Yicheng than in other areas.

Located 15.7km downstream from Yicheng, the Hub dam site involves Yicheng's two townships and three villages, namely Yakou Village of Liushui Town on the left bank, and Heluo Village and Maocao Village of Zhengji Town on the right bank.

In addition to the water reservoir project and the Hub dam construction project, a drainage project is underway for eliminating the inundation of farmland along both banks when water is impounded after the project is completed. The drainage project involves some areas along both banks of the Han River. Construction of floodways on the left bank involves 11 villages of Wangji and Nanying townships of Yicheng; construction of Yidao floodway involves 12 villages of Yancheng Sub-district and Zhengji Town. The drainage project covers a total area of 720.53mu.

See table 2-1 for the basic information on the aforesaid three subprojects.

Table 2-1 Areas affected by the project

Sub-project	Indicators	Unit	Quantity
Water Reservoir	Number of townships involved in the inundated area	number	8

Sub-project	Indicators	Unit	Quantity
	Number of villages involved in the inundated area	number	34
	area of inundated land	mu	27584.03
	of which, cultivated land	mu	865.27
	beaches	mu	15542.18
	woodland	mu	9631.48
	residential land	mu	9.77
	land for other uses	mu	1535.33
	Houses to be demolished	Number of household s/people	18/91
Hub Dam Construction	Number of townships involved	number	2
	number of villages involves	number	3
	Permanent land acquisition	mu	1165.94
	Temporary land occupation	mu	840.38
	Houses to be demolished	Number of household s/people	17/61
Drainage & Floodways	Townships involved	number	4
	villages involved	number	23
	area	mu	720.53

Source: 1. Hubei Communications Planning and Design Institute: *Resettlement Planning and Design Report for Land Acquisition for Construction of Han River Yakou Shipping Hub*, January of 2016.

2. School of Water Resources and Hydropower Engineering of Wuhan University: *Design Report for Reservoir Drainage System of Han River Yakou Shipping Hub Project*, 2015

2.2 Social and economic development of project area

2.2.1 Yicheng's economic development

Yicheng is a county-level city under the jurisdiction of Xiangyang. Located in

the northwest of Hubei Province and along the middle reaches of the Han River, Yicheng covers an area of 2,115km², with an east-to-west length of 76km and a south-to-north width of 53km. It has jurisdiction over eight towns, two sub-districts, one industrial park, and one provincial-level economic development zone. By the end of 2014, Yicheng's total registered population was 567,493 and permanent population was 520,200. In 2014, Yicheng's birth rate was 10.11‰ and death rate was 5.02‰. The developed area of Yicheng covers 14km² and has a population of 150,000.

In 2014, Yicheng's government realized total revenue of 2,137,430,000 Yuan and general budgetary revenue of 1,908,290,000 Yuan. Of 2.13743 billion Yuan, 125,020,000 Yuan was central tax revenue and 1,061,030,000 Yuan was local tax revenue. In 2014, average disposable cash income of Yicheng residents was 16,947 Yuan. The average disposable income of urban residents was 22,243 Yuan, of which 1,343 Yuan was the average consumption expenditure of urban residents. Urban residents' expenditure on food accounted for 36.9% of their total consumption expenditure. Average construction area of residential houses of urban residents was 49.95m². Average net income of rural residents was 13,263 Yuan. Rural residents' average spending on living was 10,057 Yuan. Rural residents' expenditure on food accounted for 38.4% of their total consumption expenditure. Rural residents averagely own construction area of 47.02 m².

2.2.2 Economic development of affected townships

With regard to the townships and sub-districts within the project area, Yancheng sub-district, located in Yicheng, has a relatively large non-agricultural population; whereas other townships have typical rural economic and social structures. Cultivated land owned by rural people on average varies. In Liushui Town, cultivated land per person exceeds 3mu (1mu=666.67m²), while in other townships, cultivated land per person exceeds 1.65mu. The project area has a relatively large number of cultivated lands in Hubei Province.

Table 2-2 Basic information of towns (sub-districts) within the project area

Towns (sub-districts)	Area (km ²)	Cultivated land (hectare)	Total population	Rural population	Non-agri cultural population	Natural population growth rate (‰)	Cultivated land per person (mu)
Yancheng	90.98	3280.27	131673	50176	81497	3.69	0.98
Zhengji	214.00	9247.70	83268	73945	9323	4.97	1.88

Xiaohe	231.42	7357.90	60480	52764	7716	7.72	2.09
Liushui	581.00	8734.00	46169	41637	4532	3.86	3.15
Nanying	172.00	5023.00	46518	41960	4558	6.54	1.80
Wangji	147.00	4351.30	43582	39670	3912	4.84	1.65

With regard to the employment distribution within the project area, about one third of rural employees engage in agricultural production in their respective townships, while the remaining two thirds of rural laborers engage in production and business of the industrial sector and service sector. In Liushui Town, 45% of laborers serve in the industrial sector and service sector, whereas in other towns, nearly or over 50% of laborers seeks jobs or do business outside their respective towns. In 2014, farmers' average net income ranged from 11,000Yuan to 13,000Yuan, and it was higher in Yancheng Sub-district, Zhengji Town, and Liushui Town than that in Wangji Town, Nanying Sub-district, and Xiaohe Town. Traditionally, Yicheng has been known as a "little giant" in agriculture, because some of its townships boast the distinctive production and processing of agricultural and sideline products and have formed a pattern of "one product of one town" and "one specialty of one village". Within the project area, Liushui Town is known for growing watermelon and Zhengji Town is known for raising ducks and duck-related products processing, whereas Wangji Town and Nanying Sub-district are known for growing vegetables on a large scale.

Table 2-3 Employment of the residents of townships (sub-districts)

Township (Sub-district)	Number of rural employees	Employment sectors (%)			Farmers' average annual net income (Yuan)
		Number of people engaging in agricultural production locally	Number of people engaging in the industrial and service sectors locally	Number of people working or doing business outside their hometown	
Yicheng City	157317	34.84	21.84	43.31	13263
Yancheng	20157	25.41	18.35	56.25	13120
Zhengji	40719	35.00	14.87	50.13	13188
Xiaohe	29468	35.00	20.81	44.19	11685
Liushui	24367	41.77	45.94	12.29	13570
Nanying	21934	35.00	17.58	47.42	11848
Wangji	20672	35.18	16.61	48.21	11089

One third of labor force engages in agricultural production locally, while the remaining two thirds takes in non-agricultural jobs and their monthly income ranges from 2,000 Yuan to 3,000 Yuan in general with a weighted average salary of

approximately 2,200 Yuan.

Table 2-4 Monthly income of rural migrant workers from the affected area (%)

	Below 1,000Yuan	1000-2000	2000-3000	Above 3,000Yuan
Total	6.90	38.23	33.79	21.07
Yancheng	1.83	33.07	52.80	12.31
Zhengji	8.43	41.76	11.82	37.99
Xiaohe	12.04	56.90	21.47	9.59
Liushui	0.00	2.00	8.01	89.98
Nanying	5.11	41.95	45.58	7.35
Wangji	6.43	18.23	69.32	6.01

2.2.3 Economic development of affected villages

The basic information of the villages in the project area shows that villages whose land is acquired are of typical rural economy and social structure. These villages in general have no collective economic entities. Rural households in the villages contract land as their basic means of production. Two thirds of rural people primarily engage in non-agricultural sectors. Of 18 villages whose land is acquired, five villages' cultivated land per person is less than 1 mu, while the remaining 13 villages' cultivated land per person exceeds 1 mu, with 1.5 mu being the maximum value.

Table 2-5 Basic information of affected villages

Town	Village	Current rural population (number)	Paddy field (mu)	Dry land (mu)	Area of cultivated land per person (mu)
Zhengji Town	Maocao	2827	1684.87	2217.24	1.38
	Heluo	5236	2840.2	4590.19	1.42
Wangji Town	Sanzhou	1540	0	2050	1.33
	Hanshui	1848	0	1840	1.00
	Fangge	584	0	393.2	0.67
	Xinguan	763	0	668	0.88
	Xinxing	3958	0	4492	1.13
	Xiangjiang	1737	0	1082.3	0.62
	Xinzhou	508	0	760	1.50
Yancheng Sub-district	Taiping	353	217.84	207.99	1.21
	Nanhe	1192	0	1746	1.46
	Tannao	2676	0	3702	1.38
Nanying	Nanzhou	1342	953	1014	1.47

Sub-district					
	Annao	854	457.29	635.58	1.28
	Gongnao	2060	0	1900	0.92
	Nanying	3280	1015.78	3131.17	1.26
	Guanzhuang	163	77	57	0.82
	Wulian	2841	1041.86	2612.08	1.29

2.2.4 Basic information of affected families

To better understand the affected families, PMO organized people to conduct a random survey of the families affected by land acquisition and house demolition of the project and has obtained the detailed information of 118 families. Seven administrative villages (namely Heluo Village, Maocao Village, Wanyang Village, Tannao Village, Xinxing Village, Xinzhou Village, and Yakou Village) that are greatly affected by land acquisition and house demolition were surveyed. See table 3-5 for the basic information of relevant families.

With regard to the surveyed families, number of family members who are at least 6 years old totaled 475. Of 475 family members, 39 are illiterate, accounting for 8.21% of the total; 122 have received primary school education, accounting for 25.68%; 197 have received junior high school education, accounting for 41.47%; 67 have received senior high school education, accounting for 14.11%; 19 have received vocational school education, technical school education, or vocational high school education, accounting for 4%; 31 have received higher vocational college education or above, accounting for 6.53%.

Table 2-6 Basic data of surveyed families

Project	Quantity	Percentage (%)
households	118	
Population	508	
Male population	284	55.91
Female population	224	44.09
Educational level (at least six years old)		
illiterate/semiliterate	39	8.21
Primary school	122	25.68
Junior middle school	197	41.47
High school/technical secondary school	86	18.11
College or above	31	6.53
Age		
0-15	20	16.93
16-59	328	64.57
60+	94	18.80
Employment of labor force		
Population engaging in farming locally	184	56.10
Population serving in non-agricultural sectors locally	33	10.06
Migrant workers	111	33.84

Source of family income		
Families' farming incomes on average (Yuan)	78804	63.98
Families' non-agricultural incomes on average (Yuan)	44364	36.02

Financial conditions of these families were also surveyed. See table 2-7 for relevant information

Table 2-7 Financial conditions of surveyed families

Project	The mean	Max.	Min.
Family size	4.3	9	1
Area of cultivated land (mu)	14.41	125	0
Family's total income (Yuan)	123168	1000000	13000
Family's net income (Yuan)	64201	722200	3000
Household expenditure (Yuan)	67119	277800	10000
Percentage of farming income to family's total income (%)	63.98	100	0

It should be noted that the affected families were surveyed by random selection in the project area. As the majority of local young people work outside their hometown, the selected individuals for the survey tend to be absent. In this case, people nearby would be surveyed instead. Therefore, the majority of the surveyed are those who stay at home and engage in agricultural production. As a result, agricultural production tends to appear saliently important in the economic activities of the affected families in general. According to the analysis of survey data, the current employment and incomes of residents in the area affected by the project are similar to those in Yicheng's rural area, where a family's incomes come primarily from agricultural production while incomes from non-agricultural activities are increasing. General information obtained through field surveys serves as reference information for resettlement for the project. Based on such information, priority can be given to protecting cultivated land, the affected population's primary production resources, and to creating a favorable environment for the development of non-farming activities in the project area. To this end, the PMO and Yicheng Resettlement Office have repeatedly consulted with the affected villages along the river and have repeatedly surveyed the affected area with the design department in an effort to minimize the land requisitioned for the project by fully using the favorable terrain and resources along the river and lifting fields to reclaim land on a large scale.

3 Social Impact Analysis

3.1 Positive impact

3.1.1 Positive economic impacts

This project is designed to comprehensively tap water resources by forming a channel in the Han River and generating electricity with the water retained by a dam. On one hand, from the perspective of financial benefits, the project's profitability is largely limited by feed-in tariffs, so the project may not be able to generate profits as expected and may face the great pressure of debt payment during construction and operation. On the other hand, as a large public infrastructure construction project, the Yakou project has huge potential social benefits so that it is conducive to both the exploitation of high-grade channels in the Han River and the economic growth of the project area.

A. The Han River is one of the “ten lines of one network” under the layout scheme for high-grade channels in the Yangtze River. The Han River development plays an important role in the general layout of inland waterways and ports nationwide. Since the project was implemented, backwater can be effectively used by Cuijiaying hydro-junction. Backwater has inundated five beaches in the reservoir area, increasing the shipping capacity of the river segment 52.67km upstream from the dam site to 1,000t from 500t. The project has not only saved the cost of upgrading and maintaining the waterway in this river segment, but it has also laid a foundation on which a channel between Danjiangkou and Xinglong of the Han River will be formed and waterways designed for 2020 in the Han River main stream will take shape.

B. Water transport is an environmental-friendly, energy-saving mode of transport. The energy consumption of water transport on average is about half of that of railway transport and one tenth of that of road transport. Implementation of the project has increased the shipping capacity of the Han River waterways, which is conducive to maximizing the advantages of water transport, including low cost, few land

occupation, large transport volume, and low energy consumption. It has also increased the water transport of coal, mineral materials, and other bulk cargos, largely lowering energy consumption and effectively reducing emissions of hazardous substances. In addition, Construction of the Hub may form a 52.67km channel in the Han River, which creates a favorable environment for building large, standard-type vessels for shipping in the Han River. When the channel is formed, the general oil consumption of shipping is expected to decrease by 30%-40%, thus the economic benefit of water transport will become more salient.

C. Power grid in Xiangyang is at the hub of the power grids in Hubei province for sending electricity from China's western region to the eastern region. As the economic growth gains momentum, both the consumption and shortage of electricity are increasing. Local power supply has fallen short of meeting the power demand. The installed capacity and guaranteed capacity of Yakou Power Station are 74.2MW and 19.0 MW respectively. For years, this power station has been generating 253million kW·h of electricity annually. Close to the centers of electricity consumption in Xiangyang and Yicheng, the power station can supply power to the relevant area and will serve to boost the economy and urban development of both Xiangyang and Yicheng. Moreover, as a hydro power project, the Yakou project is expected to reduce the use of 80,960 tons of standard coal per year, which equals a reduction of 212,100 tons of CO₂ emissions (or 73,800 tons of carbon emissions) and a reduction of 690 tons of SO₂ emissions. Therefore, the project can help to save energy and reduce emissions, which is conducive to reducing environmental pollution and protecting the ecological environment.

D. With regard to agricultural production, when the hub is built, the average water level of the reservoir segment will rise. The water of the reservoir segment can flow to irrigate 80,000mu of farmland in Yicheng's Liushui Town, Zhengji Town, Yancheng, and Nanying, This has increased the irrigated area and reduced the cost of carrying water, which serves to develop efficient, economical farming. In addition, local farmers can make full use of the reservoir to develop large-scale aquaculture as a way to increase incomes.

E. The project can accelerate Yicheng's urban development, improve the quality of urban life, and improve the investment climate, which will benefit local residents and boost the economy of Xiangyang and the area along the upper reaches of the Han River. When the hub is built, the waterway in the reservoir area will be 2-5km wide and the water area of the reservoir will reach 12,700ha. The waterway of the reservoir area joins Cuijiaying hydro-junction, forming beautiful natural scenery. This will greatly improve the quality of life for residents living along the Han River, boost local tourism economy and develop supporting industries, forming a green demonstration zone along the long Han River, where "humans and water coexist harmoniously while the economy grows without any cost to the ecological environment".

F. Southern Shaanxi boasts rich water, mineral, and biological resources, while Hubei Province needs to import iron ore, petroleum, and coal. These two provinces have huge demand for water transport in the Han River. Construction of Yakou Shipping Hub has changed the water areas of Xiangyang's Xingang Yujia Lake and Yicheng's port, which is conducive to forming a waterway for shipping between Wuhan and the northwest of Hubei Province. The Hub serves to increase the shipping capacity of the waterway for transporting coal from northern China to southern China, which will help to boost the economy of Xiangyang, Shiyan, southern Shaanxi, western Henan, and the Yangtze River economic belt in particular.

3.1.2 Positive social impacts

With the project construction, a waterway 52.67km upstream from the dam site will take shape, which will largely increase the shipping capacity of the relevant area. As a result, the integrated transport system of the area will be improved, further expanding and extending the waterway. As the Han River waterway is in low grade, shipping efficiency has been low and shipping companies in Hubei province has been less competitive. These companies bear a heavy financial burden and most of their employees suffer from financial hardships. Construction of Yakou Shipping Hub is conducive to the development of Hubei's shipping industry, bringing new hopes to the

shipping companies and their employees who suffer from financial hardships.

With regard to maintaining social harmony and stability, the project construction will create new job opportunities for the residents of Xiangyang and Yicheng, and will attract migrant workers to return home and participate in the construction. The completion and operation of the project as well as the development of tourism and other tertiary industries have brought new sources of incomes to local residents, enriched their lives, improved local education, culture, and health, and raised the quality of local residents' lives.

3.2 Potential impact

(1) Impact on the livelihood of local fishermen

A. Fishing in the Han River segment in Yicheng

According to the statistics (table 3-1) of relevant surveys, the fishery population in the Han River segment from Yicheng to Xiangyang is 16573. There are only 120 traditional fishermen and account for 0.72% in total fishermen. The population of fishery workers is 7489 which includes 3381 full-time workers while most of them (3120) are doing the aquaculture activities. There are also 241 workers who engage in fishing and only account for 3.22% in total fishery workers. The rest are all part-time and temporary workers which are 4108 in total and account for 54.83% in total fishery workers.

According to the social surveys, we also found that there are few full-time fishery workers in Yicheng. Most people today treat fishery as a sideline business. The decreasing number of fishermen makes the fishing activities in Han-River are limited. A large number of labor forces are going out to the other cities for their own lives while the problem is, the original identities of these people are still fishermen according to the Chinese household registration system. The registered fishermen can get the government subsidies during the fishing moratorium. Their fishery residences are retained and the corresponding changes are not made. According to the random

sampling in local people, it found that the fishery income accounts for 5% in total family income. Some people have already quit the fishing industry and their fishery income are actually the government subsidies during the fishing moratorium. It makes the fishery income not the main source of income for these “fishermen” and the actual impacts of the project construction are mainly reflected in the housing demolition and resettlement for these people while the impacts on their income and livelihood are relatively small.

We can set an example of Yakou Village of Liushui Town where the Yakou project is located, where fishing is an industry formed around old ferry crossings. At present, there are only 17 households registered as fishing families (registered as fishery residence). There are 25 registered fishery workers and they all engage in fishing. According to a survey of Yakou village, none of the villagers who are under 50 engage in fishing; only two villagers remain running ferries while all the other villagers work outside the village. Since the late 1970s, the number of fish species in the Han River has been declining, so it is hard for local residents to live on fishing. In addition, since the late 1970s when the reform in rural China began, job opportunities in non-agricultural sectors have been increasing for farmers. People in general think lowly of fishing and fishermen. According to the interview and survey, it found that the village’s average annual income are 50000-60000 RMB, excluding the richest family in the village (which the family members got their successful business career in big city). Most villagers chose to find jobs and seize better employment opportunities in Liushui, Yicheng, Xiangyang or some other cities. The so called fishery income for these families are basically the government subsidies during the fishing moratorium. Indeed, they still get some money from fishing and they called “pocket money” (they will go fishing or do some fishery activities during their leisure time to make money for their own daily allowance). It is just a little bit of money for their family income which can be omitted here.

Table 3-1 Fishery population and practitioners in Yicheng (Fishery Annual Report 2015)

	Fisher y house holds (hous ehold)	Fishery Population		Fishery Workers						
		subtotal	Traditi onal Fisher men	total	Full-time workers				Part-time workers	Tempor ary workers
					subtotal	fishing	Aqu acul ture	oth ers	subtotal	subtotal
	1	2	3	4=5+9+1 0	5=6+7+ 8	6	7	8	9	10
Total	5723	16573	120	7489	3381	241	312 0	20	2658	1450
Yancheng	703	2023	15							
Xiaohe	658	2607	23							
Liuhou	845	1602								
Kongwan	263	755								
Leihe	252	598								
Zhengji	675	1939	33							
Liushui	781	2275	25							
Banqiao	541	1608								
Wangji	195	512								
Nanying	429	1450	24							

B. Impact of project construction to fishery resources in the Han River segment in Yicheng

The project is located in the middle reaches of Han River which is 52.67 km from Cuijiaying in upstream and 446 km from Han River estuary. According to the environment department's survey, from 2009-2014, the main fish spawning ground in Yicheng, Guanjiashan and Zhongxiang have degenerated and disappeared due to the construction of dam in upper stream. The migratory fishes in Han River have moved to branches and bends in lower stream. The construction of the project mainly affects the area from the dam to Cuijiaying and the impacts on the fishery resources in lower stream are limited.

The impact of project construction to fishery resources in the Han River segment in Yicheng is as follows:

First, after the dam is built, the commercially important fish species that have the habit of migration in rivers and lakes, including black carp (*Mylopharyngodon piceus*), grass carp (*Ctenopharyngodon idella*), silver carp (*Hypophthalmichthys molitrix*), bighead carp (*Hypophthalmichthys nobilis*), white Amur bream (*Parabramis pekinensis*), and black Amur bream (*Megalobrama terminalis*), will be confined to the Han River waterways or bends downstream from the dam.

Second, after the dam is built, hydrological conditions will be changed. This will be conducive to the bloom of filamentous algae and *Limnoperna lacustris*. As a result, the number of the fish species that feed on the aforesaid organisms is increasing. Although the quantity of planktons in the river segment downstream from the dam has slightly increased, it is still small in comparison with the quantity of planktons in lakes and water reservoirs. Accordingly, the quantity of the fish species that feed on planktons will decrease.

Third, after the dam is built, spawning sites for the majority of commercially important fish species (including the species that release viscous eggs in running water) in the Han River mid-and lower reaches will be disrupted, due to the slowdown of water flows caused by the dam and reservoir. The eggs released by the aforesaid fish species tend to drift downstream. As spawning sites in the Han River upper reaches are close to the reservoir where the flow path is relatively short, the spawn may flow into the stagnant water of the reservoir, thus the growth of the spawn will be stunted. At present, disrupted by the hydro-power development projects, new spawning sites can hardly be formed upstream from the hydro-junction.

Fourth, after the hub is built, the number of fish species that are adaptable to open water will increase greatly. In the river segment downstream from the dam, although construction of the dam may disrupt the spawning and growth of commercially important fish species in the Han River mid-and lower reaches, it is conducive to the spawning and growth of some fish species. As time passes, the commercially important fish has gradually become adaptable to the changed environment and able to spawn, feed, grow, and hibernate in the Han River segment

downstream from the dam. The fish have managed to maintain their respective species.

C. Potential impact of project construction on fishermen living along the Han River segment in Yicheng

The project will bring both challenges and opportunities to fishermen living along the mid-and lower reaches of the Han River. The challenges are as follows:

- a.** A decrease of fishery resources may lead to a decline in the fishing business.
- b.** Difficulty in fishing may increase.

The opportunities brought by the Yakou project to fishermen are as follows:

- a.** Development of fishery in the reservoir can create more job opportunities for fishermen.
- b.** Fishermen may benefit from the non-agricultural job opportunities created by project construction.
- c.** Fishermen hope that local governments and PIU put a large number of fry in the river after the dam is built so as to reduce their loss.
- d.** Fishermen hope that local governments put more efforts in promoting the use of cage nets for fishing so as to reduce their loss.

Cases

Fisherman Mr. Li said, “I find it increasingly difficult to fish now, because both the quantity of fish and the types of fish species at present is smaller than they were in the past. The dam construction has disrupted fishing, as the dam has blocked some fish from swimming upstream. Hopefully, when the dam is built, our government could put more fry into the reservoir area so that we may rely on fishing to make a better living. The number of fishermen has been declining recently, because many of them have chosen to dredge instead. It is preferable that our government could subsidize fishermen during closed seasons, because we cannot do anything during these seasons but live off our past gains.”

Fisherman Mr. Zhang said, “I learned that a dam would be built in Yicheng. Water level was measured the other day. The dam will disrupt fishing, because water

level will lower and the quantity of fish will decrease. As a result, earnings will fall”. Fisherman Mr. Liu said, “Dam construction will disrupt fishery for sure. After the dam is built, the water area will widen and the water will deepen too, thus fish will be scattered and it will be hard to catch fish. Moreover, our boat will appear smaller in the widened water area, so we will need to replace the current boat with a bigger one if we remain living off fishing. Building a dam is a good thing. After the dam is built, our water area will widen, thus we may engage in fish farming.”

Fisherman Mr. Liu said, “Building a dam can be beneficial for sure. I intend to buy a bigger fishing boat. I can use the boat to carry people across the river or deliver meals for dam construction workers. In this way, I can run a transportation business during daytime while fishing at night, thus my livelihood will not be affected by closed seasons. Fishing is definitely more important to my livelihood, because I’m a skilled, full-time fisherman. I believe the dam construction will bring more money-making opportunities to me. After the dam is built, the water area will widen and the quantity of fish will increase, so it may be easier to fish. Therefore, I will remain fishing after the dam is built. Hopefully, our government will promote the use of cage nets for fish farming so that the livelihood of fishermen can be secured.”

(2) Impact on vulnerable groups and the poor

A. Vulnerable groups

Vulnerable group of this project refers to people who are susceptible to harm and unable to adapt to the changes caused by project construction. The vulnerable group mainly includes the following people:

- Elderly person without family members: elderly single person over 65 years old without any legal supporters.
- Single-parent family: the family of which the householder is single with under-aged children.
- Families that are identified by the civil affairs department to be entitled to subsistence allowances
- The disabled: people who are restricted in their ability to participate in normal

social activities as the healthy people due to a physical or mental impairment.

- Families with other difficulties.

Based on the information provided by villages in the project-affected area, it is identified that five households at the fishermen's cooperative of Yakou Village fall under the vulnerable group, totaling ten persons. Of the five households, three are single women, namely Zheng Shun'e, Yu Youying, and Zheng Shunying. They are affected by house demolition. The remaining two households consist of three and four members respectively, with the householders being Mr. Zeng Zhaoyu and Mr. Zheng Shiguo. These two households are identified by the local relevant authority to be entitled to subsistence allowances and are affected by house demolition.

B. The poor

According to the statistics provided by Yicheng Poverty Relief Office, Yicheng's population was 580,000 in 2015. Based on the poverty line of 3,360Yuan, which represents the annual income per person, Yicheng has 29 poverty-stricken villages, accounting for 15.3% of 190 villages in total; in Yicheng, 20,880 people live in poverty, accounting for 3.6% of the total population.

Of the six towns and villages in the project-affected area, the percentages of the poor to the total populations are 7.95% and 6% in Liushui Town and Nanying Town respectively, which are relatively high. Annao Village of Nanying Town and Hanshui Village and Xinzhou Village of Wangji Town are listed as poor villages and are the focus of the poverty relief work. In Hanshui Village, no road leading to the outside of the village has been built. In the three unincorporated villages, tap water remains inaccessible to the villagers.

Table 3-7 Distribution of the poor people of various towns and villages in the project-affected area (2015)

Town/village	Rural population	The poor(number of households)	The poor (population)	Percentage of the poor (%)
--------------	------------------	--------------------------------	-----------------------	----------------------------

Yancheng	50176	516	1195	2.38
Xiaohe	52746	1310	2385	4.52
Liushui	41637	1582	3310	7.95
Wangji	39670	701	1171	2.95
Nanying	41960	1589	2517	6.00
Zhengji	73945	1959	3539	4.79
Total	300134	7657	14117	4.70

Resettlement of vulnerable groups and the poor may entail greater risks for the following reasons: first, as these groups suffer poor health conditions or are unable to make a living, they tend to be ignored during resettlement. Second, it is difficult for these groups to make a living, so house demolition and renovation will undoubtedly increase pressure on their lives, making them more vulnerable than others. Moreover, these groups lack the social support from other people, so it is hard for them to relocate and resettle.

Appendix:

Yicheng municipal government has determined accurate poverty alleviation plan in accordance with overall poverty alleviation plan of the state and Hubei Province from 2015. Yicheng municipal government plans to eliminate poverty of 20,880 people in 2017 to 2018. For this, Yicheng has formulated five major measures: 1) Raising the poverty line of 3,360 Yuan in 2015 to 4,140 Yuan and raising the standard of allowance for population who are guaranteed food, clothing, medical care, housing and burial expenses (the five-guaranteed people) from 2,900 Yuan to 8,250 Yuan at the same time. 18,500 people living on subsistence allowance and the five-guaranteed people across Yicheng City can basically get rid of poverty through this measure. 2) Reforming all of the dangerous houses of residents who are specially supported by the government through government allowance and on the voluntary basis and making the house meet grade-AA standard on residential house. 3) Realizing policy system to financially aid students with economic difficulties and including the students with economic difficulties in preschool and vocational school

into the financial-aid system. Providing training to teachers of school of the poverty-stricken villages once every year for free and eliminating dangerous classrooms for schools of the poverty-stricken villages. 4) Implementing the policy of “getting diagnosed before paying the cost” for the poor, canceling the minimum payment standard of 500 Yuan for hospitalization. The minimum standard for reimbursement is reduced from 12,000 Yuan to 8,000 Yuan, with reimbursement ratio increased by 20%. The reimbursement ratio for serious diseases is increased by 5%. Basically 100% of cost for hospitalization of the poverty-stricken households can be reimbursed. 5) Vigorously strengthening rectification on roads, sewer, ditches and pond in the poverty-stricken villages, reforming and expanding service center for convenience of people in the poverty-stricken villages and building a village-level culture plaza and 50KW photovoltaic power station to realize annual income of 50,000 Yuan in each poverty-stricken village.

Under such circumstance, construction of Yakou Shipping Hub Project provides another opportunity for elimination of poverty within the project area. In accordance with the socio-economic survey at preparation phase of this project, the following measures will be taken to assist the poverty alleviation of Yicheng City, especially providing new development opportunities for the poor within the project-affected area:

1) PMO and Yicheng Resettlement Office will try best efforts to reclaim land in areas along Han River that satisfy the field-lifting conditions to maintain and expand the productive resources for local farmers and provide guarantee for long-term livelihood of farmers.

2) Employ local laborers in construction period of the project and field-lifting process and increase remuneration to them. Give priority to laborers from the poor villages when hiring assistants for construction of the project.

3) When seeking labor services for daily life and purchasing daily necessities (such as grain and vegetables), PMO and various construction units will give priority to the local poor people.

4) Yicheng Bureau of Human Resources and Social Security will provide

training on working skills to laborers affected by land acquisition free of charge.

5) PMO will arrange construction team and units implementing land reclamation through field-lifting to maintain and improve local infrastructures, especially road and irrigation system, at the time of construction and field-lifting; expand countryside road by combining with construction of the project for Hanshui Village which is not connected to the outside world by road to improve transportation conditions of this village.

(3) Impact on women

Women in general are a part of social vulnerable group. According to the survey of the project-affected area, economic activities and lives of rural women in the Yakou Shipping Hub Project area are similar to those of typical rural women in China's central and western regions. First, women play a primary role in agricultural production. As a large number of men seek jobs in non-agricultural sectors in cities or towns, women undertake most farming work. Second, over sixty percent of women voluntarily choose to stay behind to take care of family and do housework. They follow the tradition that defines men as breadwinners and women as homemakers to divide responsibilities between family members. Third, according to relevant interviews and surveys, priority has almost always been given to male members of a family when job opportunities are distributed among family members. With a large population and scarce land resources, job opportunities, especially non-agricultural job opportunities in rural areas are scarce. When job opportunities are in shortage, 75 percent of the surveyed believe that it is preferable for men to obtain these jobs, while 14 percent of the surveyed disagree.

Project construction affects local women in the following aspects. First, the permanent and temporary land occupation of the project will disrupt the agricultural production that women engage in. Second, in case that economic activities are disrupted by the project, job opportunities will decrease, which will affect the lives of a small number of women. For example, some service jobs in the restaurants in Wanyang Village are primarily taken by women. If these restaurants are to be

demolished, women working at the restaurants will lose their jobs. Third, in villages where vegetables are widely grown, vegetables are harvested and packaged mostly by women. If land acquisition disrupts vegetable production, it will also reduce the job opportunities for women.

(4) Impact on community organization

According to the survey of the project-affected area, the impoundment of the reservoir area will be retained by the current Han-River levee when the project is completed. Most displaced persons will be resettled in areas under the jurisdiction of their original village committees, so the total population of displaced persons is small and the areas earmarked for resettlement are not far away. Therefore, the project has no salient impact on the organization of the communities in the project area.

(5) Impact of construction

The project's construction area is at the dam site, which involves Yicheng's two townships and three villages, namely, Yakou Village of Liushui Town on the right bank of the Han River, and Heluo Village and Maocao Village of Zhengji Town on the right bank of the Han River. Excavation, land leveling, material transport, and construction tend to produce a lot of dust, waste gas, noise, and household garbage, which may disrupt the daily life of residents nearby and harm their health. Moreover, construction may disrupt the traffic nearby, causing traffic jams. As markets and residents' houses were generally built on both sides of a road, construction may also pose risks to traffic safety.

During project construction, a large number of workers and relevant staff will enter the construction area. On one hand, an abrupt influx of a lot of people and materials will boost the development of local catering and lodging industries, increase the incomes of local residents, and increase communication between local residents and people from elsewhere. Moreover, construction of supporting facilities for the project will also benefit local residents. On the other hand, the construction area is densely populated, while infrastructure and hygienic conditions in the area are poor. If health facilities are insufficient and health management system is ineffective, diseases such as typhoid fever, dysentery, hepatitis, and HIV/AIDs are likely to spread. In

addition, An increase of temporary residents poses potential risks to the public security and social order of the local area.

When the Yakou Shipping Hub Project is started during the second half of year 2016, there are many construction teams go into site. Liushui Town, Zhenji Town and the Project Management Office should do their best to facilitate the construction and at the same time, they also need constitute the specific standards to management the daily work in construction site to keep the construction process safely and efficiently. According to the results of in-situ monitoring which are provided by third-party testing agency, only large enterprises has been awarded the tender of the project, which means they all have tremendous construction management experience with strict rules and regulations. CHINA GEZHOUBA(GROUP) CORPORATION, as an example, undertakes construction of the forth section of the project. The company has set up Engineering Project Department and constitute “Site Management Regulations” in details. These provisions has been made to clarify the site planning, site facilities, sanitation management, canteen management, dormitory management, fire safety and reward and punishment system. Every construction teams have their own construction sites which works independently and they are not interfere with the towns nearby. If all the regulations and institutions are implemented strictly, it is expected that for the adjacent communities, the construction of the project can be proceeded peacefully without any bothering.

(6) inundated and acquired land and resettlement

According to the survey of the project-affected area, land acquisition for Yakou Shipping Hub Project entails 53 villages of 8 townships and 99,495.03mu of a inundated area. Of 99,495.03mu, 71,911.0mu is water area and 27,584.03mu is land area. The inundated is land retained by the Han River levee. Based on the classification of land and resources under China’s law, land retained by the Han River levee is the land earmarked for state-owned water conservancy facilities. However, in Yicheng, as the area of beaches increases, the beaches along the Han River that remain dry for years have been developed into cultivated land. These cultivated lands

have been included in Hubei Cultivated Land Requisition-Compensation Balance Plan. In 1990s when the second-round rural land contracting was underway, land-use rights were contracted to the villagers of the villages along the Han River banks based on the number of their family members. According to the resettlement survey, the land of which use rights have been contracted to the villagers covers 14,279.06mu. Yicheng is a prefecture-level agricultural city. A large area of land inundated will reduce both local land resources and villagers' incomes from farming; a large number of houses demolished will increase the burden on those villagers.

(7) Impact on local residents

According to relevant surveys and statistics, the majority of the households in the project-affected area own cultivated lands. Of these cultivated lands, there are not only state-owned and collectively-owned lands of which use rights have been contracted to local households, there are also flood plains that have been contracted to and reclaimed by local households based on the number of family members. Every household till 14.41mu of land on average. The surveyed households' incomes from farming average 78,804 Yuan; they make money primarily by tilling the state-owned/collectively-owned land and by reclaiming flood plains. The flood plains owned by these households will be partly or fully used for project construction, which may reduce the households' incomes from farming (accounting for 64% of their total incomes).

(8) Impact on local ethnic minorities

For the social impact assessment, a random survey of residents in the project-affected area has been conducted in the form of questionnaire, which involves 431 households and 1,163 people (all of them are Han people). No one from ethnic minorities have been identified during the survey, so it is safe to say that the project has no impact on ethnic minorities.

(9) Openness and transparency

Successful implementation of the resettlement plan calls for the participation and supervision of stakeholders. stakeholders should participate in the entire

implementation process, including the release of project-related information and policies, land reallocation during the implementation of the project, housing reconstruction, and compensation. Keeping the resettlement process open and transparent to the public is a prerequisite for the successful implementation of the resettlement plan for the project.

Public participation in the resettlement process may be hindered due to ineffective channels of feedback and consultation, especially in rural areas. Rural residents' participation in the resettlement process tends to be ignored. If the public fails to participate in the resettlement planning in an open and transparent manner, a grievance mechanism for the stakeholders, people to be resettled, and affected residents will fail to be effectively implemented, let alone obtaining the latest information of the project and resettlement. This will disrupt or defer the successful implementation of both the project and the resettlement plan.

4 Impact on Displaced Persons

4.1 Response to construction suspension order

From July to August of 2015, the design institute led and organized local governments to conduct a thorough inventory survey of the Yakou Shipping Hub layout plan and of the plan regarding keeping the hub's normal impounded water level at 55.22m. From September to early October of 2015, the organization reviewed, confirmed, and publicized the survey result.

On October 14th of 2015, Hubei Provincial People's Government issued the *Notice on Prohibiting New Construction and Immigration in the Area Occupied and inundated by Han River Yakou Shipping Hub Project* (No.206 [2015] of Hubei Provincial People's Government). Based on the notice, a deadline of October 14th of 2015 was determined for land acquisition and house demolition for the project.

All of the surveyed know Yakou Shipping Hub Project, and most of them support the project and believe that they will benefit from the project.

4.2 DMS standard's Impact on DPs

In the view of villagers in project-affected villages, the Detailed Measurement Survey (DMS) standard entailed in resettlement is different from the measurement standard that these villagers are used to. For example, local villagers use "zhang", a unit of length (1 *zhang* =3.3 meters) and "mu", a unit of area (1 *mu*=1,600m²). Some villagers do not understand standard units of measurement such as square meters (m²). The results of measurement using standard units may make the villagers feel that the actual area of their houses and the result of measurement are different, thus they tend to believe that their interests are infringed upon. Therefore, surveys of structures to be demolished shall strictly follow the technical standard of measurement. The results of

surveys shall be fully, effectively, and accurately conveyed and explained to local villagers. This is an effective approach to preventing disputes and conflicts in the resettlement process.

4.3 Resettlement of displaced households

The project entails demolition of residential structures of a total of 35 households, of which 17 households live together in a community at Yakou fishermen's cooperative in Liushui Town where the dam is located and 18 households live in the reservoir area yet do not live together in a community. In addition, the non-residential structures of another 37 households are to be demolished. Based on the use of private structures that are to be demolished, different options of compensation are made available to the affected people.

4.3.1 Resettlement of displaced residents from fishermen's cooperative of Yakou Village

According to the result of resettlement surveys, the project entails demolition of 17 households living at fishermen's cooperative of Yakou Village in Liushui Town, totaling 1,574 m². Relevant details are as follows:

First, the villagers' housing conditions are poor in general. Built long time ago, the houses in Yakou village are small and have poor structures. According to the result of filed surveys, all residential structures of the village's 17 households were brick-wood structures built before 1980s. Living space per household averages 93m². Living space per person averages 25.8m², far less than 47.2m² of the average living space of Yicheng's rural residents per person in 2014. Moreover, over 75 percent of residential structures are either idled or dilapidated. Almost all working-age population lives away from the village.

Second, in Yakou Village, the villagers' livelihoods have changed radically. According to the relevant social survey, the fishermen's cooperative was a busy ferry

crossing before 1980s, where local villagers live off fishing and ferry services. They did not contract any land-use rights. As the traffic conditions of the village's surrounding areas had been improved and fishing in the Han River had been banned from 1980s to 1990s, none of the villagers who are under 50 engage in fishing; only two villagers remain running ferries while all the other villagers work outside the village. According to relevant interviews and departments, all residents of the fishermen's cooperative have participated in the social endowment insurance program for non-working urban residents. The project's main impact is house demolition, which will not disrupt local residents' livelihoods.

Third, in Yakou village, only a small number of villagers have housing concerns that need to be addressed. According to the information collected with regard to the resettlement preferences of 17 households, only two households prefer houses for resettlement to be built on a new house site. According to interviews with the villagers, more than ten households have purchased houses in Yicheng's downtown area or on the farms in Denglin. Therefore, only four households have housing concerns that need to be addressed.

The construction of the hub area of Yakou Project has been started in the second half of 2016, and the dam area is in course of construction now. The fishermen's cooperative of Yakou Village located in left bank of dam area which is affected by construction of hub area directly, has been relocated before March, 2017.

According to the results of in-situ monitoring which are provided by third-party testing agency, Liushui Village offered monetary compensation and houses rebuilding as two resettlement plans for 19¹ households affected by the project which they can choose freely. Among 19 households, most family members choose to go to work or do business outside of town many of them have been away from rural home for many years and bought new house in where they work. What else, there are many second

¹Compared with the number of general survey before the project, the actual number of relocated households are 19 during the resettlement implementation. Because among the original 17 households in general survey, there are two households are taken into account separately which makes the two more households in actual number. But it makes no differences.

hand houses with extreme low price after the relocation of Xiangnan Prison. So there are no families and residents choose to rebuild their houses on rural house site as the resettlement compensation. They all choose monetary compensation and buy the new house by themselves.

According to the results which are provided by staff from third-party testing agency, the monetary compensation has been paid in place for 19 households affected by the project. Various compensation agreements have been signed and compensation funds have been received by every family, all the funds will be transferred into the bank card of 19 relocated households accurately and directly by the resettlement offices of towns. There are 9 families live in the rural home among the 19 relocated households while most of them go outside of town to work or do business, and many of them have bought new houses in Yicheng, Xiyang or somewhere else. So the resettlement of the project changes nothing for their daily life. For the 9 families which live in the rural home, all of them have bought the satisfied second hand houses with the monetary compensation after the relocation of Xiangnan Prison, and they benefit from lower price, more bigger space, better structure and improved living condition.

Cases:

Denglin Farm is about 500-1000 meters far from Yakou Shipping Hub Project, which was a state-owned farm operated by Xiangnan Prison. The relocation of the farm has been started at the beginning of 2015 and there are a lot of second hand houses because of moving out of farm staff. These houses are mainly frame and masonry-concrete structure, and they are far more better than the houses in the fisherman's cooperative of Yakou Village with better quality of construction, more bigger space, satisfied sanitary environment, convenient transportation. There is a large number of houses left, after the relocation of the farm, which makes the price of these houses are extremely low, and the resettled residents from fisherman's cooperative of Yakou Village can benefit from it.

Relocated household 1

Zhaoyu Zeng, lived in a despaired masonry-timber structure house of 57 square meters with his wife. He got 80000 yuan as monetary compensation in total this time, which includes the premises compensation of 61000 yuan and homestead compensation of 19000 yuan. Then, Mr Zeng spent 27000 yuan to buy a masonry-concrete structure house with 59 square meters in Denglin Farm. He also spent 1000 yuan to decorate three doors in new house, which makes his total consumption for the new house is 28000 yuan with 475 yuan per square. In other words, compared with his old house, Mr Zeng got a better one with the same size and improved housing structure, and he also got more than 50000 yuan as his family deposit at the same time.

Relocated household 2

Liecheng Wang, lived in the house with construction area of 128 square meters with his son, Junbo Wang. He got the premises compensation of 123,000 yuan, and homestead compensation over 20,000 yuan. Then, Mr wang spent about 60,000 yuan to buy a new house with 140 square meters in Denglin Farm which is fully furnished. Every square of house costs him 430 yuan, so he even bought a second one for his son latter with 120 square meters because of the low price of houses.

Table 4-1 Statistics of resettlement houses in Yakou hub project area

NO.	Name of Householder	Construction Structure	House Area	Compensation Standard	Compensation (Yuan)
1	Guangying Zeng	Brick-wood (Main House)	65.72 m ²	700 yuan/m ²	46004
		Brick-wood (Wing Room)	26.48 m ²	480 yuan/m ²	6355
		attachments			3230
2	Youying Yu	Brick-wood (Main House)	54.39 m ²	700 yuan/m ²	38073
		Brick-wood	22.8 m ²	480 yuan/m ²	5472
		Simple structure	5.16 m ²	150 yuan/m ²	774
		attachments			2910
3	Pinde Zheng	Brick-wood (Main House)	58.71 m ²	700 yuan/m ²	41097
		Brick-wood (Wing Room)	25.62 m ²	480 yuan/m ²	6149
		Simple	10.56 m ²	150 yuan/m ²	1584

		structure			
		attachments			14983
4	Shixiang Zheng	Brick-wood (Main House)	59.7 m ²	700 yuan/m ²	41790
		Brick-wood	11.9 m ²	480 yuan/m ²	3142
		attachments			6240
5	Zhaoyu Zeng	Brick-wood (Main House)	57.5 m ²	700 yuan/m ²	40250
		Brick-wood (Wing Room)	28.52 m ²	480 yuan/m ²	6845
		Brick-wood	22.2 m ²	480 yuan/m ²	6394
		Brick-wood	8.7 m ²	380 yuan/m ²	1488
		attachments			6201
6	Pilan Han	Brick-wood (Main House)	63.8 m ²	700 yuan/m ²	44660
		Brick-wood	14.76 m ²	480 yuan/m ²	3897
		attachments			500
7	Fengge Zheng	Brick-wood (Main House)	54.76 m ²	700 yuan/m ²	38332
		Brick-wood	15 m ²	480 yuan/m ²	3960
		Brick-wood	6.6 m ²	480 yuan/m ²	1742
		attachments			3587
8	Liecheng Wang	Brick-wood (Main House)	26.8 m ²	700 yuan/m ²	18760
		Brick-wood	7.65 m ²	380 yuan/m ²	1308
		Simple structure	47.53 m ²	150 yuan/m ²	7130
		Simple structure	6.46 m ²	150 yuan/m ²	969
		attachments			3891
9	Shigui Zheng	Brick-wood (Main House)	70.84 m ²	700 yuan/m ²	49588
		attachments			1916
10	Shizhao Zheng	Brick-wood (Main House)	99.33 m ²	700 yuan/m ²	69531
		Brick-wood	33.3 m ²	480 yuan/m ²	7992
		attachments			5503
11	Shunying Zheng	Brick-wood (Main House)	61.92 m ²	700 yuan/m ²	43344
		Brick-wood	28.16 m ²	480 yuan/m ²	6758
		Simple structure	2.88 m ²	150 yuan/m ²	432
		attachments			30
12	Shiyun Zheng	Brick-wood (Main House)	57.91 m ²	700 yuan/m ²	40537
		Brick-wood (Wing Room)	27.8 m ²	480 yuan/m ²	6672
		Simple structure	7.27 m ²	150 yuan/m ²	1091
		attachments			1113
13	Shihua Zheng	Brick-wood (Main House)	60.9 m ²	700 yuan/m ²	42630

14	Daixin Zheng	Brick-wood (Main House)	40.6 m ²	700 yuan/m ²	28420
		Brick-wood attachments	24.68 m ²	430 yuan/m ²	4776
					690
15	Daigang Zheng	Brick-wood (Main House)	77.94 m ²	700 yuan/m ²	54558
		Brick-wood	22.84 m ²	430 yuan/m ²	5482
		Simple structure	3.5 m ²	150 yuan/m ²	525
		attachments			1762
16	Shiguo Zheng	Brick-wood (Main House)	67.25 m ²	700 yuan/m ²	47075
		Brick-wood (Wing Room)	23.48 m ²	480 yuan/m ²	5635
		attachments			5842
17	Shune Zheng	Brick-wood (Main House)	15.8 m ²	700 yuan/m ²	11060
		Brick-wood	5.97 m ²	480 yuan/m ²	1433
		attachments			400
18	Junbo Wang Junyuan Wang	Brick-wood (Main House)	93.25 m ²	700 yuan/m ²	65275
		Brick-wood	35.47 m ²	480 yuan/m ²	9364
		attachments			6408
19	Changhua Long	Brick-wood (Main House)	67.73 m ²	700 yuan/m ²	47411
		Brick-wood (Wing Room)	35.53 m ²	480 yuan/m ²	8527
		attachments			200

Table 4-2 Resettlement Conditions of Relocated Families

NO.	Name of Householder	Living Conditions of Demolished Houses	Resettlement Conditions
1	GuangYing Zeng	Inhabited	Buying house near the farm
2	Youying Yu	Uninhabited	Monetary compensation
3	Pinde Zheng	Uninhabited	Monetary compensation
4	Shixiang Zheng	Uninhabited	Monetary compensation
5	Zhaoyu Zeng	Inhabited	Buying house near the farm
6	Pilan Han	Uninhabited	Monetary compensation
7	Fengge Zheng	Uninhabited	Monetary compensation
8	Liecheng Wang	Inhabited	Buying house near the farm
9	Shigui Zheng	Uninhabited	Monetary compensation
10	Shizhao Zheng	Inhabited	Buying house near the farm
11	Shunying Zheng	Uninhabited	Monetary compensation
12	Shiyun Zheng	Uninhabited	Monetary compensation
13	Daihua Zheng	Inhabited	Buying house near the farm
14	Daixin Zheng	Uninhabited	Monetary compensation
15	Daigang Zheng	Inhabited	Buying house near the

			farm
16	Shiguo Zheng	Uninhabited	Monetary compensation
17	Shune Zheng	Uninhabited	Monetary compensation
18	Junbo Wang	Inhabited	Buying house near the farm
19	Changhua Long	Inhabited	Buying house near the farm

4.3.2 Compensation and rehabilitation for displaced households in the reservoir area

According to the result of the resettlement survey, the households in the Yakou Fisherman's cooperative that are to be relocated live in a compact community, whereas other households in the inundated reservoir area that are to be relocated do not live in a compact community. According to the survey and interview of the households that do not live in a compact community, they have different needs. For the families who have more than one dwellings and have no intention to move into any resettlement houses, they prefer cash compensation. For the families who have only one dwelling that is to be demolished, they hope that their respective village committees allocate new, proper house sites to them so that they can have resettlement houses built on the sites. In this case, the formalities that these families go through for building resettlement houses shall be free of charge.

4.3.3 Resettlement and compensation for non-residential structures

According to the resettlement survey, most of the non-residential structures that are to be demolished for the project are located in two villages: Heluo Village and Wanyang Village. The non-residential structures in Helu Village are auxiliary rooms for production; the non-residential structures in Wanyang Village are facilities for fishing tourism under the bridgehead of the Han River bridge in Yicheng.

The structures in Heluo Village are used as forest protection offices, cowsheds, storage rooms for means of production, etc. The structures are built primarily for production. After the reservoir is built and land is reclaimed, the structures are no longer necessary. The villagers concerned prefer that these structures are compensated in cash in accordance with the compensation standard II issued by Yicheng Price

Bureau and relevant other authorities.

For villagers in Wanyang Village who run the fishing tourism business, the demolition of buildings used for fishing tourism may take a toll on the business. These commercial buildings are in an area where Wanyang villagers have been living and working for a long time. Because some villagers notice that the area tends to be free of flood and they see the unique advantages for running the catering business in the area, and because the area is so remote that relevant authorities are unable to supervise it, the villagers constructed the buildings by themselves. In the years when there are no floods, business tends to be busy in summer. Wanyang villagers believe that as these buildings have never been applied for approval, they are satisfied that these buildings are compensated at their replacement prices. However, when the reservoir is built, these villagers still hope that they can run service businesses such as fishing tourism near their home.

4.4 Resettlement and rehabilitation of PAPs

The biggest impact brought by the project is the loss of productive resources for residents along the Han River. According to the statistics of preliminary investigation conducted by the project design department, suppose the normal water level is 55.22 meters, then the area of cultivated land inundated will be 13,800.01 mu. This is a pretty large amount. The affected residents hope proper measures can be taken to minimize land losses while the requirements of project construction are met.

From socio-economic survey, we learned that the cultivated lands of residents along the Han River embankment are located outside of the dike. The land-use rights of gradually reclaimed flood plains are generally contracted to local households based on the number of family members. Every family member has a share of the flood plain. Over the past 10 years, as growing economic crops and vegetables become increasingly popular, land circulation has increased. A sampling survey conducted in Heluo Village, Maocao Village and Xinzhou Village showed that almost half of the flood plain has been transferred at a price ranging from 400Yuan (for growing

vegetables and grains) to 2,000 Yuan (for growing *Ophiopogon japonicus* and Chinese yam) per mu per year. The affected residents have the following concerns: how to ensure that affected households re-obtain land resources as many as possible; how to ensure that the land loss caused by land acquisition is minimized for every affected household; how to ensure that re-obtained cultivated land can meet the farming needs of local farmers; and how to properly compensate for the land loss caused by land acquisition.

4.5 Compensation and rehabilitation of affected enterprises

Two enterprises are affected by the project: one is Huafeng Shipbuilding Co Ltd in Yicheng City, and the other is Xiangyang Yonghongji Concrete Co Ltd (Yicheng branch). According to field surveys and communication with persons in charge of the enterprises, impoundment of the reservoir will impact some of the production processes and sites of the two enterprises. However, the normal operation of the two enterprises will not be disrupted. For Huafeng Shipbuilding Co Ltd, the measures planned is to elevate the shipbuilding and ship-repair sites. For Yonghongji Concrete Co Ltd (Yicheng branch), the measures planned is to adjust the sandstone-transporting equipment based on the change of water levels. Therefore, compensation for the two enterprises will be paid in cash; production will be independently organized and adjusted by the enterprises .

4.6 Compensation and rehabilitation of affected specialized facilities

4.6.1 Rehabilitation of wharf

Niping Wharf, affected by the project, is located upstream from the Han River Bridge in Yicheng (right bank of the Han River). Yaowan Bulk-Cargo Wharf, also affected by the project, is located downstream from the Han River Bridge in Yicheng

(right bank of the Han River). Both wharfs are 500t berths. As the inundated area is deep, in-situ protection and elevation treatment had no effect. According to the unified planning of Yicheng City, Niping Wharf and Yaowan Wharf will be relocated to the two berthing areas reserved in Xiaohe Port Area. Two additional berths with each being 1,000t will be built.

Pingzhan Jiehe Wharf is also affected by the project. It is a simple 500 DWT berth with ramp. It can be restored nearby after water is impounded.

4.6.2 Rehabilitation of pumping stations

Ten small pumping stations, including 8 irrigation pumping stations and 2 water pumping stations, will be inundated when the reservoir fills up. According to field surveys and the agreement reached between the users of relevant facilities, these pumping stations can be rebuilt in-place by raising the installation elevation for water pumps and motors.

4.6.3 Rehabilitation of sluice gates

When the reservoir fills up, the Han River water level will rise, as a result of which, the sluice gates will be permanently inundated. The original drainage system will no longer be able to work. The original sluice gates will either be closed or transformed into pump stations. The treatment measures for sluice gates will be decided based on the needs of flood drainage.

4.6.4 Rehabilitation of other specialized facilities

The owners of other specialized facilities affected by the project, such as the storage yard along the Han River, pump ports, tractor roads, and ferry piers, generally hope that their facilities can be rebuilt or restored in-place before the project is completed. In case that those facilities cannot be restored in-place or need to be rebuilt elsewhere, the owners hope that the PIU can compensate them.

4.7 Resettlement of vulnerable groups

For vulnerable households identified during the resettlement survey, PMO will take special measures to provide them with necessary support during the implementation of the project. The various supports will also be provided to the families which are influenced by project's resettlement plan badly.

Cases:

In Heluo Village and Maocao Village, the village committee has collected the profiles of poverty households and assigned village cadres are appointed to every poverty family to provide supports from different ways, such as monetary compensation, technical assistance, employment information and basic living allowances. The goal of the village is to lift these families out of poverty before 2020.

In Yakou Fishery Village, Liushui Town, the poverty families are resettled properly by the village committee and every level of resettlement departments based on the specific conditions. For example, the minimum living allowance has been offered to Mr and Mrs Zeng to ensure their basic daily life with considered their elder age. With the assistance from relevant departments in Yicheng, Mr Shigui Zhao has been offered a job in Yicheng by the village committee to improve the family income and living condition. Because he gets a disabled family member.

5 Project Impact on Local Residents

5.1 Land resources

As shown by survey data, most residents in project affected area own land resources to varying degrees. The smallest area of cultivated land owned by these households is 0.5 mu, and the largest is 125 mu, for an average of 14.41 mu of cultivated land per household. The cultivated land mainly consists of two components, state or collective-owned land, and river beaches. Most cultivated land owned by the surveyed households had been assigned to them by the village collectives as “contracted land”, “reserved land” or “sustenance land”. Buying and selling of land rights is common.

5.2 Production and businesses of local residents

The survey data shows that the business models of most households in project affected area are: household contracted management of rural land accounts for 89%; self-employed businesses account for 6%; contracted management of businesses as individuals accounts for 4%; the remaining 1% utilize other models. The types of businesses include: food crop cultivation accounts for 42.29%; other cultivation (vegetables and orchards) accounts for 36.82%; households whose main businesses are forestry account for 18.89%; the remaining 2% generally work in transportation, construction, commerce, and services.

Randomized interviews in the area showed that while most local households live by agricultural production, it is typical for one household to conduct several different productions, with clear role delineation between family members. Some members mainly do farm work, cultivating wheat, barley, rapeseed, peanut, cotton, sesame and vegetables, in addition to tending livestock such as chicken, ducks, pigs, sheep and cows. Other family members work in non-agricultural businesses as workers or merchants at home or away from hometown.

5.3 Labor distribution of local residents

Survey data shows that in project affected area, 6.7% of surveyed residents spend less than 3 months each year on agricultural labor; another 6.7% spend about 5 months on agricultural labor; 67% work full year on agricultural labor; 19.6% are unknown. On average, the surveyed residents spend 272 days each year on agricultural labor, and 120 days on non-agricultural labor.

For villagers, a significant portion of their time is spent as migrant workers. Many households have members who work away from hometown as workers or merchants, and their work constitute an important part of their family economies. Each surveyed family has at least one person who had left hometown for work last year. The shortest duration of away work is 45 days, and the longest is 220 days, i.e. spending almost the whole year away, for an average duration of 130 days. The main destinations of migrant workers are the cities of Xiangyang, Wuhan, Shenzhen and Shanghai, the provinces of Guangdong and Zhejiang, and neighboring cities. The occupations of migrant workers are mostly in construction, odd jobs, garment manufacturing, decoration, transportation, catering, and services.

5.4 Income of local residents

Survey data shows that the lowest total income among surveyed households in 2015 is 13000 Yuan, and the highest is 1,000,000 Yuan, for an average of 123168 Yuan. After deducting the production costs in 2015 (fixed assets and other expenditures for production), the lowest net income is 3000 Yuan, and the highest is 722,200 Yuan, for an average net income of 642,010 Yuan, and an average net income of 11,069 Yuan. The average incomes per household of the surveyed households in the villages are respectively: Heluo Village: 60,250 Yuan, Maocao Village: 45,398 Yuan, Wanyang Village: 94500 Yuan, Tannao Village: 40,150 Yuan, Xinxing Village: 42,350 Yuan, Xinzhou Village: 79,712 Yuan, and Yakou Village: 17,000 Yuan.

Structure-wise, the surveyed households have an average agricultural income of 78,804 Yuan per household, accounting for 64% of all revenue, and an average non-agricultural income of 44,364 Yuan, accounting for 36%.

In general, agriculture remains the main livelihood of the surveyed families, but its importance has been on decline. For some households, agriculture has already stopped being their main income source.

5.5 Impact of land occupancy on household income

5.5.1 Impact of land occupancy

Survey data shows that 76% of surveyed households will have their land occupied by the project, 9.3% will also be required to resettle, and 11.8% will not be directly impacted (their land will not be occupied, nor will they need to move). 76% of all surveyed households will have the land they are cultivating affected by the project.

95.76% of surveyed households own cultivated land of varying sizes, which consists of state or collective land assigned to households on contract, and river beaches within the levee reclaimed over the years, assigned to either families or individuals on contract. On average a household cultivates 14.41 mu of land. These households have an average agriculture income of 78804 Yuan, obtained mostly by cultivating the state or collective land or reclaiming river beaches. We can see that 85.3% of surveyed households will have their river beaches occupied by the Yakou project, directly affecting their agricultural income.

5.5.2 Impact of land occupancy on a typical household and its income

Case study:

Luo (female), of Heluo Village, Zhengji Town: Luo, 53 years old, of Han ethnicity, elementary school education, does agricultural work at home. Her spouse is 62, of junior middle school education, and retired. Luo now resides with her son and daughter-in-law. Her son is 28, of senior middle school education, currently a migrant

worker in Yicheng city, with rural household registration status. Her daughter-in-law is 23, of junior middle school education, worked as a migrant worker before marriage, and is currently a helping hand and carer of their child at home.

The Luo family has 3.5 mu of cultivated land, of which 1.6 mu is contracted land, and 1.9 mu is reclaimed beaches. They cultivated rice, vegetables and cotton last year, selling most of their produce at markets of Yicheng, for a profit of 3000 Yuan. They also raised 4 pigs, each about 100 kg in weight, sold for about 4000 Yuan. Luo's spouse has a pension of 600 to 700 Yuan each month; their son also sends back home over 300 Yuan each month, both adding up to a wage income of about 12000 Yuan each year. Their total income for 2015 is about 21000 Yuan.

Wang (female), of Xinzhou Village, Wangji Town: Wang is 37 years old, of Han ethnicity, junior middle school education, currently running a roadside grocery, earning a few hundred Yuan every day. Her spouse is 40, of junior middle school education, previously worked in a factory in Xiangyang, and now works at home in the field after the factory was closed down. Their son is 17, now a senior middle school student in Yicheng. Also living with them are the family of Wang's little sister, which is a nuclear family. Wang's little sister and her husband used to work in Yicheng. Wang's current house is over 200 m² large with 6 rooms, which has become crowded with 8 residents since her sister's family moved in. Wang's biggest hope is for their house to be requisited by the project, so that the two families can each live in their own houses using the land compensation money.

The Wang family has 0.6 mu land. "The land is now cultivated by my parents for rice. The rice is for our own food. This is contracted land assigned by the village. We don't pay taxes. Taxes are paid by the village collective using income from the village feed plant. We also have a half mu of reclaimed land, planted with Chinese cabbage, radish, garlic and cowpea. They are for our own food. We sell the rest of vegetables we can't eat, but only get dozens of Yuan in return." In Wang's plan, if her son cannot enter a college after graduating from high school, he can become a taxi driver in Yicheng or Xiangyang, earning a few thousand Yuan each month.

Li (female), Nanhe Village, Yancheng District: Li is 35 years old, of Han

ethnicity, and vocational middle school education. Her spouse is 36, of senior middle school education. Their household also consists of their five-year old child, and her parents-in-law, for a total of 5 members. The family depends on the income of Li and her husband as migrant workers, while their over 1 mu of land is cultivated by her parents-in-law. The land consists of 0.2 mu of contracted land, 0.2 mu of sustenance land, 0.3 mu of reclaimed land, and 0.5 mu of purchased land. Last year they used 0.2~0.3 mu to plant about a dozen vegetables, including rapeseed and cowpea. These vegetables are not sufficient for their own use, requiring them to buy more. Another 0.2~0.3 mu is used to plant rice. The remaining less than 1 mu is used to plant peanuts, for making their own cooking oil. All their produce have been used up as their own food, rather than becoming their income. Their income last year is over 20000 Yuan; the produce of their land should equal about 2000 Yuan.

Liu (male), Wanyang Village, Lanying Sub-district: Liu is 60 years old, of Han ethnicity, and senior middle school education. His wife is 63, without formal education. Both work in the field at home. “We live together with our youngest son. He is 30 this year, graduated junior middle school. He is a tradesman in Yicheng. Our daughter-in-law is 28, also of junior middle school education, working together with our son. We have a young grandson.” They have 34.8 mu of land, of which 4.8 mu is contracted land, and 30 mu is reclaimed beaches. They harvested more than 500 kg of wheat last year, all used as their own food; over 2500 kg of peanuts, sold in a market nearby; over 2000 kg of rapeseed, which can be made into over 500 kg of oil, earning them over 4000 Yuan; they also harvested over 200 kg of cotton, sold for over 1000 Yuan. They have raised a few pigs, and can earn over 700 Yuan of profit each pig. Their son and daughter-in-law’s business earns 2000~3000 Yuan each month. Their expenditure last year consists of: food 6000 Yuan, clothes 1000 Yuan, medical care 1200 Yuan, socialization 500 Yuan, water, power and the rest 300 Yuan, for a total of 9000 Yuan. The Yakou Project does not require us to move, but their land outside the levee will be inundated, so we will still be greatly affected. They support building the dam, but also hope the government can give us a fair compensation.

6 Project Impact on Gender

6.1 State of women development in project affected area

The socio-economic survey on women in project affected area was conducted using questionnaires, in-depth interviews and special discussion meetings. The survey covered 1163 persons in 431 households, including 713 labor-capable women, accounting for 61.29% of the sample; 70% of the sample are over 35 years in age. It is known that all residents in the reservoir area are of Han ethnicity, hence so are all survey participants.

(1) Education

The survey finds that women in the area generally has received less education than the men. The ratios of illiteracy/semi-illiteracy, elementary school, junior middle school, and senior middle school educations among women are respectively 15.24%, 26.00%, 39.01% and 21.07%, all lower than men, among which the ratios are 38.94%, 69.47%, 39.29%, and 25.26%. The men are in overall better educated than the women.

(2) Labor division

The survey finds that women in the area generally participate in socio-economic activities with equal frequency as their male counterparts, and the difference lies in their division of labor.

First, women play more important roles in agricultural production. As the majority of male workers flow toward non-agricultural industries in cities and rural regions, women have shouldered most agricultural tasks.

Second, most women who stay at home to take care of their family and do agricultural work are out of their own volition. They are almost all motivated by consideration of their family income, and their evaluation of their husbands' capabilities. Women who stay at home generally believe their husbands can make

more money working away from home, while the wives can give better care to children and the elderly if they stay at home.

Third, the distribution of work opportunities generally prioritize men. There are comparatively fewer work opportunities in rural regions, especially non-agricultural ones. Given the small number of opportunities, 75% of the surveyed residents believe they should be given to men as much as possible, while 14% disagree. We found that increasingly more women are willing to leave their rural home to work or do businesses, or do non-agricultural jobs in rural regions. These travels tend to expand their knowledge of society, and increase their willingness to make choices for themselves. Nonetheless, the men generally have more opportunities for non-agricultural work, and the opportunities tend to favor men.

(3) Labor and income

The survey finds that most women have received less education, and do not have notable skills. These factors have hindered the increase of their income. Their income source includes local agricultural and non-agricultural production, as well as short-term work away from home. Both the wives and husbands contribute to the family income, but the villagers' perception mostly favors the party that brings in more monetary values. On the other hand, the women's unpaid housework, such as caring for the elderly and children, laundry and cooking are generally not considered a source of income.

(4) Women's standings in marriage

The survey finds that the women in the area have greater autonomy in choosing their partners compared to the past. Their parents now do not determine who they should marry, and only provides suggestions. There are generally three models of dating and marriage. First, dating without intermediaries before marriage. This often happens between migrant workers. Second, a couple are introduced to each other via an intermediary, but make their own decisions on dating and marriage. This is fairly common in the area. Third, a couple already know each other, but need to confirm their dating/marriage relationship through an intermediary. Sometimes young men

and women get to know each other at school or at work, and have intermediaries help send their messages about dating/marriage.

There are four models of residency after marriage. First, the wife lives with the husband alone. This model is increasingly adopted. Second, the wife lives with her parents-in-law for a short period, then separate from them to live with her husband and child as a nuclear family. This is the most common model. Third, the wife lives with her parents-in-law. One third of women live this way after marriage. Fourth, the wife lives together with her own parents. Due to reasons such as crowdedness or the need to care for the elderly, the woman lives with her husband with her own family. These models allow the young women much autonomy after marriage.

(5) Women's standings in families

The survey finds the distribution of rights in families in a state of transition toward greater equality, in terms of control over familial properties, management of income, and decisions on consumption.

First, the importance of women in property management is increasing. The survey shows that in 24.5% of families, the couple manages their belongings together; in 4.2% of families all properties are completely managed by the wife.

Second, in most families, decisions on production and division of labor are made by the couples together. The survey shows in 40.6% of surveyed households, decisions are made together regarding work and division of labor.

Third, purchase of expensive commodity and means of production is generally decided by the couple together, but in many cases the man's opinion prevails. Men's opinions are particularly important when it comes to decisions on investments and loans.

6.2 Project impact on local women

6.2.1 Potential impact on women's economic participation

The project may have both negative and positive impact on women's economic

participation. There are three main effects.

First, the project may decrease the women's roles in agricultural production. The project's occupation of cultivated land will affect 76% of surveyed households. Their agricultural income, accounting for 64% of their total income, will be reduced or eliminated. As the women are the main contributors of agricultural income, the decrease of land will reduce their contribution to their households.

Second, the project may affect the women's contributions in commerce and services.

Case:

Some residents of Wanyang Village, Nanyang Sub-district live by running restaurants on the Yangtze River bank. Most restaurants are run by women, and the land acquisition will affect their employment. A typical case is Hu (female, 43, senior middle school, Han ethnicity). She said: We have been running the restaurant for 4 to 5 years. We opened it without a license, and nobody cared about it. We pay taxes once each year, at 700~800 Yuan. There aren't any other taxes. The restaurant was managed only by me; my husband has been helping me since he became unemployed. The restaurant is also my home, and just building the house cost us over 10,000 Yuan. With the dam being built, I heard all these restaurants will be demolished. Our lives depend on the restaurant, so we will be greatly affected without it. It is run by just my husband and me. We cook by ourselves, and have hired two girls as waitresses, each for 150 Yuan one month. They are both local Yicheng residents. They just help us serve the dishes, wash the dishes, mop the floor, and so on. We never did any special decoration. It's just a cement floor and white walls, 130 m². Removing our two bedrooms, our floor area for business should be 200 m². I think for the compensation, the floor areas for living and for business should be calculated separately, and the rate for business should be higher. My advantage is we are near to both the river and the road. We have many customers, and never worried about our business.

Third, the project may also bring opportunities for non-agricultural activities to the women. 45% of the surveyed women believe the project will give them

opportunities, mainly because of non-agricultural activities. These take the form of: opportunities from the project itself; the resettlement houses may be close to roads or other passages of transportation, and residents can use the location advantages to do commerce or provide services; the compensations can be used as the initial investment for non-agricultural activities, creating employment opportunities; women can be freed from the heavy work of agricultural production, becoming labor force for non-agricultural activities.

Case:

Zhu (female, 38, junior middle school, Han ethnicity) of Yakou Village, Liushui Town said: I'm absolutely supportive to the dam project. The problem is that moving is a bit troublesome for us. But it will be good if the government can move us to the town. I haven't thought that much about other benefits. Just thinking about buying a truck. Most people in my village are considering that, buying a truck to transport rocks for the project. It also will be good if they can develop tourism here, so I can open a shop, or be a guide. The project will benefit us women, because women are good at these jobs. The way I'm thinking, when the project begins, I will first build a house using the compensation. If I have any left, I'll buy a truck; if that's not enough, I'll borrow some. A new truck costs 70,000 to 80,000 Yuan, an old truck 20,000. They say the dam will take five years. There must be many jobs.

Hu (female, 41, senior middle school, Han ethnicity) of Wanyang Village, Nanyang Sub-district said: My restaurant will be demolished. This definitely will affect our income. But on the other hand, I can use the compensation to build a new house by roadside, open a new restaurant. Building the dam will need transportation. I want to use the remaining money to buy a truck. When we hear about the dam, most families plan to buy trucks, because the project will last five years, and we'll never run out of business during the five years. There is no down side to the dam. It will give our village lots of businesses.

The project does not affect women's economic activities in any way other than the three discussed above.

6.2.2 Project impact on women's education and marriage

Analysis of survey data shows that the project does not have any impact on women's education and marriage.

6.2.3 Women's attitudes on the project and its impact

First, most surveyed women are cooperative on the government's Yakou Shipping Hub project. 83% of the surveyed women said they are willing to cooperate, 9.3% did not express their opinion clearly, and only 8.5% said they are unwilling.

Second, most of surveyed women are willing to resettle. When asked "do you accept resettlement if required by Yakou Shipping Hub project", 60.2% of surveyed women chose accept, and 30.5% said they can cooperate if given fair compensation.

Third, the women hope the compensation can be monetary, supplemented by other methods. When asked about "if Yakou Shipping Hub project needs to occupy your farmland, what form of compensation do you hope to receive," 64.4% of women hope to have monetary compensation, 7.6% hope to be compensated by land or jobs, and 0.8% hope to have a combination of monetary, land or other methods. Below are some cases of people wishing for monetary compensation.

Case:

He (female, 55, elementary school, Han ethnicity) of Heluo Village, Zhengji Town said: My family owns 5 mu land, all river beaches. We reclaimed 0.2 mu by ourselves. Now they are building a dam, so we must cooperate. Our 5 mu land may all be occupied. We hope the government can pay us back some money. If they don't pay enough, we will appeal to the government.

Luo (female, 70, illiterate, Han ethnicity) of Heluo Village, Zhengji Town said: I know a dam will be built here. The geological survey team had already been here. I have my own land, and my eldest son has given me his. We have more than 2 mu in the vegetable field and the beaches. The vegetable field is 1.5 mu. I do farm work myself. If there's anything I can't do, I'll ask my sons to come back and help. I'm too

old to work on the beaches, so my cousin is using it. I think my life has been OK. I planted vegetables on my 1.5 mu land, mostly for myself. I can sell what I can't eat too. 800 Yuan is enough to pay for seeds and fertilizers each year. I sell the vegetables directly at the Yicheng market, and can earn over 7000 Yuan each year. The land is enough for me to live. The dam will occupy all of my beach land. We can only support our country's needs, but we shouldn't be given the short change. I don't know much about the standards for compensation, I just hope it to be fair. The government should also take care of us old villagers, better giving us more support.

Fourth, the women hope the beach land can be properly compensated. The standards and policies regarding normal cultivated land are clear, and the women do not have much worry about them, compared to the reclaimed beaches. During interviews, they had all expressed the hope that the beaches they spent years working on can be compensated, in a fair manner for a good amount of money.

Case:

Luo (female, 42, elementary school, Han ethnicity) of Heluo Village, Zhengji Town said: My family has 4 mu of land, and 3.2 mu is divided to the members, each person 0.8 mu. We reclaimed the 0.8 mu ourselves. We will definitely be cooperative, but I hope we can have some compensation. 1500 Yuan for one mu will be enough; our house is not affected. If the compensation is not enough, we will still ask the government for a solution, otherwise we will appeal.

Fifth, the women hope for transparency in the standards and amounts of compensation.

Case:

Xu (female, 42, junior middle school, Han ethnicity) of Wanyang Village, Nanyang Sub-district said: I know of the dam. It certainly will affect us. Land will be requisited, houses will be demolished. What should we live on? I hope there will be enough compensation, and the information will be clearly publicized. The money should be given to us directly, not passing through the township or the village governments – that way we have no idea how much we should receive, and the

officials will have taken off a lot of the money.

Sixth, the women hope the village can provide us with housing plots in good locations, but allow them to build houses by themselves.

Case:

Zhai (female) of Yakou Village, Liushui Town said: My family doesn't have any land left, just this house. If the compensation is fair it will be good. Better if the government can move us all to Xiangyang or Yicheng, and give us a house there. Or they can give us a new plot nearby so we can build our own house. If they want to develop tourism here, I will be able to open a restaurant. If the compensation is too little, and the plot is too remote, I would absolutely not move. If they demolish my house, I will appeal to higher levels of governments. Actually I don't think that's going to happen. If they can meet my conditions, I am willing to move.

Seventh, the elderly women wish to move into already built houses.

Case:

Li(female) of Yakou Village, Liushui Town said: My family's house was built decades ago. Just three rooms, one storey. If they want to demolish it, they better build a new house for me. I am too old, just give me one already built.

6.2.4 Women's potential methods of expression when their intention to participate cannot be realized

Through questionnaire and interview survey, we found that the women will take action if their intention to participate cannot be realized.

We found 8 models of possible action for the women.

First, exercise patience as much as possible. 17.79% of the surveyed women indicate that they will not take action if the compensations do not satisfy them.

Case:

Yao (female, 53, elementary school, Han ethnicity) of Xinzhou Village, Wangji Town said: They will occupy my family's 7 mu of beaches for the dam. The land is our livelihood, so I would rather have land than money. Money is gone when we spent

it all, but land can be given to the next generation. Still, I'm not going to do anything if I'm not content with the compensation. The land belongs to the state, and I have no reason to complain too much.

Second, petition to a higher authority on one's own. 4.2% of women say they will do that if the compensations do not satisfy them.

Third, directly speak to relevant governmental departments on one's own. 32.2% of the surveyed women say they will do that if the compensations do not satisfy them.

Case:

Wang (female, 45, elementary school, Han ethnicity) of Yakou Village, Liushui Town said: I'm very supportive of the dam. I just hope the compensation will be fair. Otherwise I will go and ask the government for a solution.

Fourth, litigation on one's own. 2.54% of women say they will do that if the compensations do not satisfy them.

Case:

Song (female, 39, junior middle school, Han ethnicity) of Maocao Village, Zhengji Town said: My family has 6.6 mu of land. 4.2 mu of beaches may be inundated in the project. We hope they can be reasonably compensated. Otherwise we will have to suit.

Fifth, petition to a higher authority together with other people. 11% of women say they will do that if the compensations do not satisfy them.

Case:

Ding (female, 47, elementary school, Han ethnicity) of Yakou Village, Liushui Town said: I always have problems with the officials here. If the compensations are bad, and we have someone preparing for a petition here, I will join them. We will petition to the district, town and the municipal governments. We may even go to the provincial government in Wuhan, even to Beijing. We will never stop until we are treated fairly.

Sixth, directly speak to relevant governmental departments together with other people. 33% of women say they will do that if the compensations do not satisfy them.

Case:

Li (female, 65, never schooled) of Xinzhou Village, Wangji Town: My husband and me have 1.5 mu of land. The dam project will take our land. If we do not like the compensation, we will talk to the government together with other members of the village.

Seventh, refuse to accept the demolition. One participant said she will never allow her house to be demolished if the compensations are unsatisfactory.

Eighth, exercise patience, and only petition to a higher authority on one's own if the situation is completely unacceptable.

In overall, the women's most likely action to express their discontent is: contacting the government directly, but together with other people; doing it by oneself; and exercise patience. Their choices are not significantly different from the men.

7 Public Participation

7.1 Results of public participation

7.1.1 Knowledge about the project

Survey shows that 100% of surveyed residents know of the Yakou Shipping Hub project. They obtained their information from several channels, primarily the press (radio, TV and newspaper) and government's notices. Some other residents obtained information from the project's geological survey workers, neighbors, or friends.

7.1.2 Project and opportunities

About 78% of villagers believe they can benefit from the Yakou project; 19% are uncertain; 3% believe there is little benefit for them. Survey data shows their perceived opportunities from the project do not differ significantly: between women and men; between people of different educations; between households with per capita net income above and below the average; and between people of different ages.

7.1.3 Attitude toward land acquisition and resettlement

Survey shows about 95% of surveyed residents are supportive toward the Yakou project. This includes not only people who believe the project will give them opportunities; even among residents who do not believe they can benefit, more than 95% expressed their support for the project. This shows the project is widely supported by the local populace.

A. Expectation on land acquisition and its compensation

In terms of compensation, about 65% of surveyed residents hope to receive monetary payment, about 8% hope it can take the form of land or work opportunities provided by the government, and about 1% hope for a combination of monetary

compensation and work opportunities.

Throughout interviews, discussion meetings and questionnaire surveys, the residents have proposed four main methods of compensation:

First, monetary payment. In the questionnaire survey, 3/4 of surveyed residents in Maocao, Zhengji Town hope for monetary compensation, and 64% of surveyed residents of Heluo Village also wish to receive monetary compensation for their reclaimed beaches the project will occupy.

Second, obtaining land via reassignment and replacement within resident groups or villages. Land still plays an important part in many farmers' life, and they still wish to receive a parcel of land. In meetings and interviews, we found that the villagers are aware that this is an unrealistic expectation, as the region's land area per capita is relatively low, while the government's general policies have recently emphasized making "no changes to land contracts in 30 years". When villagers bring up this compensation method, their real sentiment is to emphasize the significance of land to their livelihood, hoping they can be reasonably compensated.

Third, work opportunities from the government or other institutions.

Case:

He (female, 53 yo, elementary school, Han ethnicity) of Maocao Village, Zhengji Town said: Wouldn't they build a dam after acquiring our land? I hope our men can get good work opportunities in building the dam.

Luo (female, 43 yo, junior middle school, Han ethnicity) of Heluo Village, Zhengji Town said: The dam project will occupy my family's land. I hope they can give me work in addition to paying me.

Fourth, a combination of work opportunities and monetary compensation.

Case:

Li (female, 49 yo, had about 2 years of school, Han ethnicity) said: I'm unsure how much land they will occupy from my family. If they are going to occupy my land, the compensation should include compensation for crop and our labor, better given in a lump sum. I also wish my son and daughter can have jobs when they build dam.

B. Expectation on house demolition and its compensation

The questionnaire survey covered a sample of villagers whose houses will be

demolished. Further in-depth interviews were also conducted.

Regardless of quality, all surveyed households have their own houses, which are mostly built in the 1980s. Additionally, each household has other small auxiliary buildings. Most houses are built with a brick and concrete structure. The largest is 1171 m², and the smallest is 60 m². The lowest cost spent on building a house is 4500 Yuan, and the highest is 1800000 Yuan. On average, each family's expenditure on house-building is 242376 Yuan, and the average cost per square meter is 1000 Yuan. A few households have been using their houses for commercial purposes.

Most of these families say they are willing to resettle to support the project. A minority of villagers showed some unwillingness to resettlement.

C. Expectation on the amount of compensation

Every surveyed resident wished that the compensation can allow them to buy a house similar in quality to their old house, that the compensation can be directly paid to the households as soon as possible.

Case:

Li (female, 38) of Yakou Village, Liushui Town said: My house was pretty big at over 200 m² with six rooms, but it has now been crowded with eight people. I'm waiting for the project to demolish my house, so we can take the compensation money. It will be better if we can get two housing plots [for the two families leaving in their household], but one bigger plot will also do.

Hu (female, 43) of Wanyang Village, Nanyang Sub-district said: My family has been running a restaurant for 4 to 5 years. Our livelihood depends on the restaurant. I can accept it if the compensation is fair, or if they give me another housing plot by roadside, so I can keep running my restaurant. If they are going to pay me little money, and give me a housing plot in a remote place, there's no way I'm going to accept it.

Zhang (male, 73) of Tannao Village, Yancheng Sub-district said: Our house was built in 1987. It was built with brick and wood, costing us 30,000 Yuan at the time. It is 90 m² large, in addition to 30 m² of kitchens. We use it only for living. Whether we like our house or not, it is a citizen's duty to serve our country's greater interests. My demand is for us to keep the three rooms plus two kitchens structure; better if it is by

roadside, so we can keep our livelihood by opening a restaurant or a shop.

7.1.4 Expression of opinions on land acquisition and house demolition

The surveyed residents indicate that they will express their opinions through formal and informal methods about land acquisition, house demolition and compensation. We recorded 8 methods, and the most prominent one is directly speaking to relevant governmental departments on one's own (34.9%), followed by speaking to governmental departments together with other people (26.6%), then by exercising patience as much as possible (11.9%).

First, exercise patience as much as possible. 17.81% of surveyed residents indicate that they will not take action if the compensations do not satisfy them.

Second, petition to a higher authority on one's own. 4.17% of villagers say they will do that if the compensations do not satisfy them.

Third, directly speak to relevant governmental departments on one's own. 31.78% of villagers say they will do that if the compensations do not satisfy them.

Fourth, litigation on one's own. 2.52% of villagers (all female) say they will do that if the compensations do not satisfy them.

Fifth, petition to a higher authority together with other people. 10.23% of villagers say they will do that if the compensations do not satisfy them.

Sixth, directly speak to relevant governmental departments together with other people. 32.19 % of villagers say they will do that if the compensations do not satisfy them.

Seventh, refuse to accept the demolition. One participant said she will never allow her house to be demolished if the compensations are unsatisfactory.

Eighth, exercise patience, and only petition to a higher authority on one's own if the situation is completely unacceptable.

7.2 Public participation plan

The project has prepared public participation plans for different stakeholder groups. Measures will be taken during the project's preparation, implementation and operation to encourage public participation and negotiation.

8 Social Management Plan

8.1 Expand positive impacts of the project

(1) Enhance the positive role of the project in promoting local economic development

The implementation of the project will greatly stimulate economic development of project site and its surrounding area and even the middle and western Hubei province.

- a. After the project is completed, 5 beach areas will be inundated and the river section upstream from the dam with a length of 52.67km will be promoted to a 1000t third-class channel. Total fuel consumption of ships will decrease by 30-40% and economic benefits of water transportation will get bigger.
- b. After the project is completed, the power station will have an installed capacity of 75.6MW and an annual electricity generation capacity of 324 million kw.h. The average annual electricity generation capacity will be 253 million kw.h, on-grid energy will be 247 million kw.h after deducting own demand and transmission loss, and average annual economic benefits is expected to reach 58.15 million Yuan.
- c. After the project is completed, normal water level of the reservoir will be 55.22m, the reservoir will have a total capacity of 303,000,000 m³, and the water level in this section will rise.
- d. After the project is completed, the width of river course in this section will increase to 2-5km, water surface of the reservoir will reach 12,700 hectares, and the reservoir and Cuijiaying hydro-function will be joined to form a beautiful natural scenery belt.

(2) Enhance the positive role of the project in promoting local social development

- a. During project implementation, a great number of jobs that have no or have

low technical requirements will be provided to local residents.

- b. The project will directly or indirectly stimulate infrastructure construction and related service industries in local area and in this manner also provide a great number of new jobs for local residents.
- c. After the project is completed, the working environment of shipping enterprises and their employees will be greatly improved, and aquaculture, tourism and other service industries may be developed to increase incomes of local residents without harm to water quality and ecological environment.

8.2 Minimize adverse impacts of the project

(1) Reduce adverse impact on local fishermen's livelihoods

For this purpose, some suggestions are put forward:

- a. Continue to implement national and local fishing moratorium orders to keep ecological balance of Han River basins;
- b. Construct fishways and release fries (artificially reproduced) into the river to restore and protect fish varieties;
- c. After the project is completed and the reservoir is impounded, with support from local governments, more fries shall be released into the river and cage culture shall be encouraged to restore fishermen's livelihoods along Yicheng section of Han River.
- d. Protect aquatic environment and enhance fishery management at reservoir area and dam area.

(2) Reduce adverse impact on vulnerable groups

For this purpose, some suggestions are put forward:

- a. Local labors shall be preferred for project construction and field lifting to increase their incomes. In particular, poor persons among the PAPs (project affected persons) shall be preferred for temporary and auxiliary work in project construction.

- b. Labor service and daily consumables (such as grains and vegetables) shall be bought from nearby poor persons.
- c. Yicheng Municipal Labor Bureau will choose those having labor ability from the vulnerable groups and poor people affected by land acquisition and teach them all kinds of labor skills.
- d. Local public infrastructure (especially roads and irrigation system) shall be maintained and upgraded during project construction and field lifting (land reclamation). Especially at poor villages, roads shall be expanded to improve their living and production conditions.

(3) Promote the development of women

For this purpose, some suggestions are put forward:

- a. Encourage women's participation in the project
- b. Teach women necessary labor skills
- c. Give particular attention and care to poor women.

(4) Reduce the impact of project construction on daily life of villagers

For this purpose, some suggestions are put forward:

A. Traffic:

- a. Project construction shall be conducted by segments to reduce the impact on traffic.
- b. Set up road signs, limit running speed and publicize traffic safety knowledge;
- c. Make emergency response plan against potential traffic accidents;
- d. Enhance publicity to raise the residents' sense of traffic safety;

B. Noise:

- a. Project construction near residential area must be in strict accordance with applicable noise standard and measures shall be taken to reduce noise pollution.
- b. High-noise construction at night is prohibited, and if possible, all-night construction shall be avoided.

C. Dust, exhaust gas and domestic waste:

- a. During project construction, roads shall be wetted regularly to prevent dust.

b. Temporary buildings at construction site and potential polluted area shall be cleaned and disinfected regularly and the workers shall be strictly managed.

D. Spread of disease:

a. Local medical institutions shall take measures at project affected area to prevent all kinds of diseases (especially STD and AIDS);

b. Hire specialized persons to regularly arrange physical examinations and quarantines for workers and managers and make sanitary inspections over office area, living area and temporary living places separately.

c. Enhance health education and raise the workers' and managers' sense of disease prevention.

An effective mechanism shall be established to solve the above problems.

(See the EIA report)

(5) Inundation, land occupation and resettlement

For the purpose, some suggestions are put forward:

a. Prepare the RAP and SIA report to make the PAPs express their demands and participate in the project.

b. Compensate the residents affected by inundation or land occupation to help rehabilitate their capacity of life and production (including facilities for life and production); provide necessary assistance to the families with women as major workforce and vulnerable groups; cooperate with local governments to teach the labors technical skills; give priority to the resettled residents affected by inundation and land occupation when offering non-technical jobs.

c. Grievance system shall be established to solve the problems found in resettlement work.

An effective mechanism shall be established to solve the above problems.

(See the RAP)

(7) Reduce adverse impact on local residents

For the purpose, some suggestions are put forward:

a. Cooperate with local governments to provide skills training.

- b. Provide appropriate job opportunities (non-technical) for the residents in project affected area.
- c. Grievance system shall be established to solve the problems found in resettlement work.

(8) Strengthen public consultation

Develop the public consultation plan and establish an effective grievance system.

8.3 Promote development of local residents

A. Reduce the impact of project suspension on local residents

For the purpose, some suggestions are put forward:

- a. Shorten project suspension time and complete the project as soon as possible;
- b. Disclose all compensation and resettlement information to local residents

B. Reduce the impact of DMS measurement standard on resettled residents

Considering that DMS (detailed measurement survey) measurement standard is used in resettlement work but the villagers are used to the measurement unit of Zhang (= 3 1/3 meters), DMS results shall be explained in a way understandable to the PAPs and the public to avoid disputes.

C. Reduce the impact of resettlement of households and enterprises whose domiciles are demolished

Some suggestions are put forward for resettlement of the residents of Yakou fisherman's cooperative: a. if the resettled residents have purchased house at Yicheng urban area or other places and agree to cash compensation, compensation shall be paid to them according to the established standard; b. if the resettled residents want to purchase a second-hand house near Denglin Farm, the PMO and the resettlement offices at all levels will offer support to the house transaction, e.g. transfer of house ownership and exempt from taxes and fees; c. if the resettled residents want to construct new houses, resettlement experts and geological experts shall be invited to choose a proper place for new house. New house will be constructed by the residents, but the "three connections and one leveling" for new house will be arranged by the

Resettlement Office of Liushui Town and funded by the PMO. Compensation shall be paid to the residents according to compensation standard II.

Some suggestions are put forward for the residents scattered in the reservoir area:

a). if they have house at another place and are not willing to construct new house, cash compensation shall be paid to them; b). if they have no other house and have to construct new house, the village committee will arrange plots for them and new house shall be constructed by themselves, but all charges thus incurred will be exempted.

Some suggestions are put forward for resettlement of non-residential buildings:

a). for the buildings of Heluo Village inside the levees, cash compensation shall be paid according to compensation standard II issued by Yicheng Municipal Price Bureau or other authorities; b). for the buildings used for fishery tourism at Wanyang Village, cash compensation shall be paid according to compensation standard II released by Yicheng Municipal Price Bureau or other authorities, and those who want to rehabilitate their business shall be included in follow-up support program. According to the plan, the residents will obtain 600 Yuan each year, in future 20 years.

D. Reduce the impact of resettlement and rehabilitation of the residents affected by land acquisition

After consulting with the residents affected by land acquisition, and based on the principle of maximizing the protection of cultivated land, the PMO and the design institute explored the experience of other similar projects in China and proposed the idea of field lifting.

a. Basic principles for field lifting:

- 1) Terrain, geological and hydrological conditions allow for field lifting.
- 2) Compare all schemes and select the best one which is feasible technically and economically.

b. Technical procedures of field lifting:

- 1) Lift the field at shallow water area and near the dam by using the spoil excavated in project construction or by digging lower position to lift higher position;
- 2) Remove surface mellow soil of existing cultivated land, with a thickness of

30-50cm, and put them onto the lifted field to protect soil conditions for plants.

3) Engineering and ecological measures shall be taken to avoid soil and water loss and improve land utilization: under normal water level of the reservoir, grouted rubble foundation and dry stone slope shall be constructed, and above normal water level of the reservoir, EM4 three-dimensional vegetation net shall be provided at bottom, 10cm clay layer shall be set on the net and grass shall be planted on the top. U-shape anchors (distance of legs: 80cm) shall be set in quincunx to fix EM4 three-dimensional vegetation net into the sandy soil of slope and prevent slip of the net and the clay layer on net. A cast-in-situ concrete protection belt, 60cm wide and 30cm thick, shall be built on top of slope to prevent slope damage or water and soil loss due to farming activities.

c. Field-lifting plan

Land reclamation by field lifting at 12 selected parcels of land totals up to 13892.85mu, of which effective cultivated land is 13413.79mu. Refer to Table 6-1 for distribution of field-lifting area. By using this method, land occupation of the project will decrease by at least 93% and the impact of land acquisition will be largely reduced.

Table 6-1 Field lifting plan for cultivated land inundated by the reservoir

Land parcel	Elevation of lifted field (m)	Field-lifting area (mu)	Cultivated land (mu)	Remarks
T1	56.22	140.1	135.99	Maocao Village
T2	56.22	6561.12	4433.5	Heluo Village
			1094.64	Nanhe Village
			817.26	Tannao Village
T3	56.22	496.9	483.46	Nanzhou Village
T4	56.22	118.54	3.93	Guanzhuang Village
			110.51	Annao Village
T5	56.25	4597.05	1298.62	Gongnao Village
			2037.41	Nanying Village

Land parcel	Elevation of lifted field (m)	Field-lifting area (mu)	Cultivated land (mu)	Remarks
			439.65	Wulian Village
			637.31	Xinxing Village
T6	56.25	168.7	164	Taiping Village
T7	56.33	58.74	55.80	Xinzhou Village
T8	56.33	477.24	469.45	Sanzhou Village
T9	56.33	103.06	99.01	Xinguan Village
T10	56.33	319.80	308.14	Hanshui Village
T11	56.33	604.84	592.20	Hanshui Village
T12	56.33	246.76	224.15	Xiangjiang Village
			8.76	Fangge Village
Total		13892.85	13413.79	

d. Management of land reclamation by field-lifting

1) Basic principles: the reclaimed land shall be returned to the villages according to area ratio of their acquired land and shall be returned to households according the area of their land at the time of latest renewal of land contract. If total reclaimed land for a village is not sufficient to remedy the acquired land of the village, the reclaimed land shall be returned to households according to the ratio of reclaimed land and acquired land. If total reclaimed land for a village exceeds the acquired land of the village, the reclaimed land shall be returned to households according to area ratio of their land. In a word, the goal is to minimize the loss of the households resulting from land acquisition and also make them share the extra resources brought by land reclamation.

2) In spite of land reclamation by field lifting, 865.27mu cultivated land will still be acquired. Compensation shall be paid directly to land-acquired farmers according to the stipulated compensation standard and allocation method. Transfer of land

between farmers on voluntary basis will be allowed, and this may result in change of area of acquired land of each household.

3) The PMO will establish a strict supervision system to ensure that the reclaimed land meets the needs of agricultural production of local farmers. In addition to quality supervision agency, special supervisors will be selected from villagers to supervise on field-lifting process and quality. Field-lifting can't be started without consent of these special supervisors and can't be delivered without their signatures.

4) Compensation shall be paid to farmers for their losses caused by field-lifting. Compensation amount is based on annual output of their land and is paid for two years, one year for field-lifting and one year for soil ripening.

5) The part of land compensation kept by village collective will be used for public welfare undertakings, e.g. creating or improving specialized cooperatives and inviting experts and technicians to train farmers on vegetable cultivation, processing and marketing, with the purpose of increasing farmers' incomes.

e. The benefits of field-lifting

1) The implementation of field-lifting protects the land resources in project construction area to the maximum extent while the recovery of cultivated land affected by project construction can be also expected.

2) The implementation of field-lifting reduces the negative impacts of project construction on local people's daily life to the maximum extent, it also ensures the traditional production and management mode for local farmers can be continued.

3) The implementation of field-lifting reduces the negative impacts of project construction on household income to the maximum extent, it also makes local farmers resume production and increase income as soon as possible after the completion of the project.

4) The implementation of field-lifting of this project provides the important experience for the similar projects in the future to protect the land resources and reduce the negative impacts on local people's daily life.

E. Reduce the impact of resettlement of enterprises affected by land acquisition

Cash compensation will be paid to two enterprises affected by land acquisition, namely Huafeng Shipbuilding Co., Ltd. in Yicheng City, and Xiangyang Yonghongji Concrete Co., Ltd. (Yicheng branch).

F. Reduce the impact of rehabilitation of special facilities affected by land acquisition

For this purpose, some suggestions are put forward:

- a. The cargo terminal may be relocated and expanded or reconstructed at its original site.
- b. The pump station facilities will be reconstructed at its original site by increasing the elevation of water pump and motor, and their functions will be rehabilitated.
- c. The culverts and sluices may be closed or transformed to pump station, depending on drainage conditions.
- d. Other special facilities may be reconstructed at its original site or relocated to another place, or cash compensation may be paid, depending on the owner's wishes.

G. Reduce the impact on vulnerable groups

Special measures will be taken to provide tailored supports for the vulnerable groups identified by the PMO.

8.4 Promote gender development

A. Encourage women's participation in the project

Women's participation is of great significance. Women are main force of housework and agricultural production. Women's participation will help rehabilitate their livelihoods and increase their incomes.

Therefore, 1) women's needs and advices shall be considered in project design stage; 2) women and other vulnerable groups shall be provided with non-technical jobs during project implementation; 3) women shall be entitled to obtain land

compensation.

B. Teach women necessary labor skills

With decrease of cultivated land, a large number of labors leave their farmland and go out to work and women become main force of agricultural production. The PMO, together with town government, village committee and other authorities, shall provide women with technical training. Women may learn agricultural skills to increase agricultural incomes or they may learn other skills to take non-agricultural jobs.

C. Give more attention to poor women

More assistance and preference shall be given to the households with women as main workforce (e.g. living only with child or having a husband without labor ability) to help them with house reconstruction and recovery of livelihoods.

8.5 The objective and implementation of project's social management plan

8.5.1 The objective of project's social management plan

The objective of project's social management plan is assessing the social impacts of Yakou Project in order to make sure the investment on the project will obtain social benefits. Minimizing the negative effects of the project and promoting the development of social culture. We hope that after the implementation of social management plan, the rights and interests of people who live in the project affected areas will be fully protected. The investors and stakeholders of the project can communicate and share the information freely, and an effective regulatory system of the project can be built.

8.5.2 The implementation of the project's social management plan

The implementation of the project's social management plan will be connected with resettlement action plan (RAP) and Environmental Safely Management plan (ESMP). These three plan will be implemented at the same time during the period of

resettlement and project's construction.

8.6 Resettlement organizations

8.6.1 Institutional arrangement

Port and Waterway Administration and governments at all levels of Yicheng City improve institutional arrangement and capacity building to guarantee the smooth proceeding of project preparation and resettlement work. Since January 2015, the resettlement organizations at all levels have been set up and their duties have been defined. Resettlement organizations in this project mainly include:

- Project Leading Group
- PMO
- Expert Advisory Group
- Yicheng Municipal Resettlement Office
- Resettlement offices of towns (subdistricts)
- Design institute and resettlement consulting agency

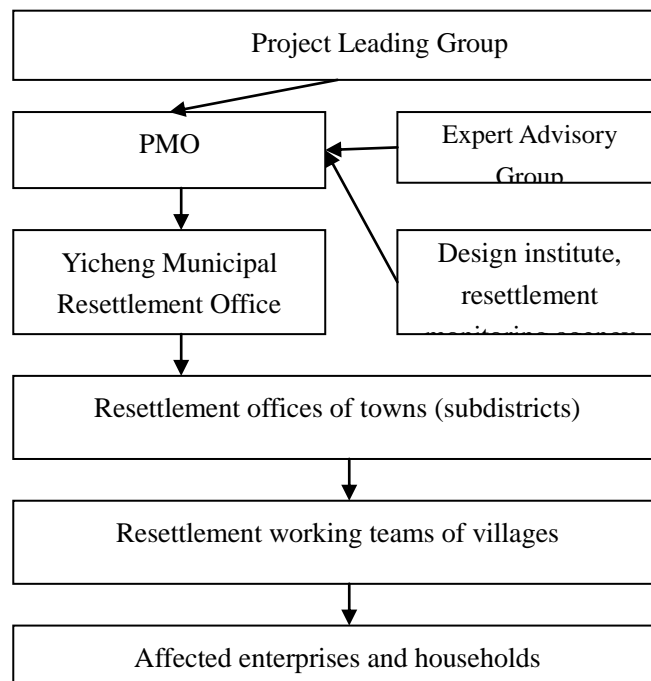


Figure 8-1 Institutional arrangement

8.6.2 Responsibilities of resettlement institutions

A. Project Leading Group

Project Leading Group is composed of members from Hubei provincial government, Hubei Provincial Department of Transportation, Port and Waterway Administration, Xiangyang Municipal Government and other relevant departments.

Main responsibilities include:

- Make key decisions related to project implementation;
- Coordinate project implementation at levels of Hubei Province, Xiangyang City and Yicheng City.
- Coordinate the relations between project related institutions and other departments

B. Expert Advisory Group

- Provide consulting services on policy and technology during project preparation & implementation
- Review and evaluate project implementation twice a year

C. PMO

- Lead project preparation and implementation;
- Make key decisions related to resettlement
- Coordinate the relations between resettlement organizations and government authorities.
- Engage design institute and consulting agency to make resettlement planning
- Go through all approval procedures required by the government and World Bank
- Formulate regulations and standards in the RAP
- Train staff of resettlement organizations at all levels
- Coordinate the construction progress of the Project and the implementation progress of the RAP;
- Sign resettlement contract with Yicheng Municipal People's Government
- Allocation of resettlement fund

- Offer guidance for and supervise on resettlement
- Coordinate the work among all resettlement organizations

D. Yicheng Municipal Resettlement Office

·Conduct surveys related to resettlement as required by the PMO and design institute

·Publish and review information about land acquisition and house demolition in its jurisdiction area

·Conduct public consultation activities in its jurisdiction area

·Assist the PMO in formulating resettlement regulations and policies

·Arrange land reclamation by field-lifting

·Arrange for restoration and reconstruction of special facilities

·Offer guidance for and supervise on the resettlement offices of all towns (subdistricts)

·Receive and manage resettlement fund

·Review resettlement agreements reported by subordinate resettlement offices and disburse money to them

·Train staff of subordinate resettlement offices

·Report work to the PMO

·Deal with resettlement problems and report the PAPs' complaints & grievances to superior resettlement organizations

E. Resettlement offices of towns (subdistricts)

·Participate in surveys and other resettlement work

·Organize public consultation activities in its jurisdiction area

·Arrange land acquisition and house demolition in its jurisdiction area

·Inspect, supervise and record the resettlement work under its jurisdiction

·Review and report the data of land acquisition & house demolition in its jurisdiction area

·Supervise on land acquisition, demolition of buildings and appendages, and relocation of enterprises.

·Deal with resettlement problems and report the PAPs' complaints & grievances

to superior resettlement organizations

F. Resettlement consulting agency

During resettlement planning and implementing process, the external monitoring agency oversees the resettlement work externally and submits progress report and monitoring report to the PMO and the World Bank. Details about its responsibilities are described in the chapter of External Monitoring.

8.6.3 Schedule

The implementation schedule of the Project (Table 8-2) has been prepared based on the progress of project preparation and implementation. The schedule may be subject to adjustment due to progress deviations. The main stages of the Project are the preparation stage, implementation stage and half a year after project completion.

a. At the preparation stage, SIA-related tasks include project information disclosure, stakeholder identification, social impact analysis and SIA Report preparation.

b. At the implementation stage, SIA-related tasks include internal monitoring and independent external monitoring. Internal monitoring is the responsibility of the PMO, which will prepare an internal monitoring and submit it to the World Bank semiannually. An independent third party monitoring agency appointed by the project owner will conduct M&E on the Project's social impacts. Before project implementation, terms of reference, a survey outline and a survey form will be prepared, a monitoring established, tasks defined and monitoring chosen. A baseline survey and follow-up surveys will be conducted through participatory SIA. At the implementation stage, an independent external M&E report will be submitted to the World Bank semiannually.

c. Within half a year after project completion, an SIA Summary Report will be submitted to the World Bank.

Table 8-2 Implementation Schedule

Stage	Task	Time
	Disclosure of project information	Jul. 2015-Aug.2015

Preparation	Identification of stakeholders, and social impact analysis	Sep. 2015
	Public participation of stakeholders	Whole process
	Preparation of the SIA Report	Sep. 2015-Aug. 2016
	Disclosure of the SIA Report	Aug. 2106
	Approval of the SIA Report	Sep. 2016
Implementation	M&E	An internal monitoring report will be submitted semiannually.
Half a year after project completion	Summary	An SIA Summary Report will be submitted to the World Bank.

8.7 Project monitoring

To minimize adverse impacts and evade risks, the project implementation process will be monitored. A qualified and experienced third-party agency will be engaged to have an independent monitoring and evaluation on the whole project implementation process. In addition, experts of the monitoring & evaluation team must have work experience abroad and be familiar with China's actual conditions.

Appendices

Appendix I: Social Assessment Outline for World Bank Financed Yakou Shipping Hub Project

1. Project Background and Social Impact Assessment

1.1 Project overview

The proposed World Bank Financed Hubei Yakou Shipping Hub Project is an important component of Hubei Inland River Shipping Capacity Improvement Project as well as a key project in the cascade development of Han River. Once completed, the project will fully improve the shipping conditions of Han River and will play a facilitating and demonstration role in the cascade development of Han River basin, thus will uplift the inland river shipping capacity of Hubei. The project connects shipping on Han River and other modes of inland transportation as well as shipping on the main channel of Yangtze River seamlessly, facilitates the formation of the integrated transportation corridor of Yangtze River Economic Belt, and provides an important support for the building and development of the Yangtze River Economic Belt.

Yakou Shipping Hub is in the 6th cascade (8 cascades in total) of the cascade development plan of Han River in Hubei, and is located at Yakou Village which is in the Xiangyang-Zhongxiang section in the middle reach of Han River and 15.7km downstream Yicheng City of Xiangyang City, Hubei Province. It is 52.67km from the completed Han River Cuijiaying Shipping Hub in the upstream and 446km from the river mouth of Han River in the downstream. According to the design scheme, Yakou Shipping Hub Project will generate 55.22m of reservoir water storage level, 350 million m³ of reservoir capacity, 54.72m of dead water level, 74.2MW of installed capacity, 19.0MW of power output, and annual average power of 253 million kW·h. The main construction projects are 1,000-ton navigation lock, 40-hole water release gate, power plant, earth rock dam, fishway and protection projects. The dynamic

investment of the project is 2.76 billion Yuan, which includes 150 million USD of World Bank loan. The planned duration of the project is 58 months.

The direct influence range of Yakou Shipping Hub Project mainly covers the area where the hub is located and the area flooded by the reservoir, which involves 10 villages of Oumiao Town, Xiangcheng District, Xiangyang City, namely Sanzhou Village, Daying Village, Dazhou Village, Taoyuan Village, Liwan Village, Linao Village, Liliuji Village, Zhaozhuang Village, and Shuiwa Village; 2 villages of Dongjin Town, Xiangyang District, namely Sanhe Village and Yakou Village; and 24 villages (yards) in 6 towns (townships/subdistricts), namely Liushui, Nanying, Wangji, Zhengji, Yancheng, and Xiaohu. The flooded area in Yakou Shipping Hub Project involves 36 villages (yards) in 8 towns (townships/subdistricts) in total.

1.2 Social assessment

In 2015 the Yakou Shipping Hub Project was listed as a World Bank support project. In order to make the preparation of the project go smoothly, according to the procedures and general practice of preparation for World Bank financed projects, the Project Implementing Unit (PUI) Port and Waterway Administration of Hubei Provincial Department of Transportation has required an assessment on the social impact of the project. Through evaluation of the social impact of the project, references are provided for the preparation and implementation of the project, which not only ensures smooth preparation and implementation of the project, but also facilitate the affected population in the project area to share the social and economic benefits brought by the project.

This research plan is designed according to the requirement on the social impact assessment of the project to collect and analyze social impacts of the project to the maximum in the project identification stage and preparation stage, to solicit opinions and suggestions of each stakeholder on the basis of extensive public participation, and to report such opinions and suggestions to the project owner and relevant departments, so as to seek benefits and avoid adverse impact and to control the social risk of the project at the minimum level, and give full play to the social benefits. Specifically, the works to be done during social impact assessment include:

(1) To investigate social and economic status of the project area and stakeholders and

their attitudes towards the project;

(2) To identify the major social factors that affect the implementation of the project;

(3) To identify the major social risks that may arise out of the implementation of the project;

(4) To collect opinions and suggestions of the broad mass of citizens benefited by the project, especially the poor, on the basis of public participation;

(5) To put forward other measures to eliminate or reduce social risks.

Through the above efforts, the project is expected to make the social issues involved in the project fully understood and attached with full attention, especially the issues related to resettlement, cultural heritage, low-income group, women and other vulnerable groups, to evaluate the impact of the project on such issues, and to propose operable measures to deal with such impact based on the relevant policies of the World Bank (such as OP 4.12, BP 4.12, and OP 4.11) and relevant domestic laws, regulations and policies.

2. Identification of Project Stakeholders

Identification of project stakeholders is the precondition of effective social assessment. Through field survey on the project area and information provided by the project design institute, the following main stakeholders of the project are identified:

- 1) PIU, namely Project Construction Headquarter of Hubei Yakou Shipping Hub Project.
- 2) Governments at prefecture (district) level, township (subdistrict) level and village level and primary-level organizations.
- 3) Residents in the project area affected by land acquisition and house demolition.
- 4) Enterprises and business entities in the project affected area and inundated area.
- 5) Population and entities affected by the special project involved in the project construction.
- 6) Residents and social organizations in the inundated area.

During the social impact assessment, the research team will identify the roles of

different stakeholders in the project, their view and attitude on the project, and the impact and benefits they may receive during the preparation and construction of the project through various forms of investigation and research, and analyze the influence and contribution they may bring to the project, and thus provide basis for making proper policy.

3. Social Assessment Methods

During the implementation of social assessment, the assessment entity will use various approaches as much as possible to get in touch with all project stakeholders, to collect various information specifically, and then use the common analysis tools in economics, statistics and anthropology, following the method of combining qualitative analysis and quantitative study, to summarize the social impact of the project and to extract and conclude useful suggestions. Specifically, the main methods of social assessment are as following:

(1) Literature survey method

The main objective of literature survey is to know about the history and background regarding the economic and social development, urban construction, environmental treatment, transportation development and people's living standard of the project area, to know about the current status of social and economic development of the Han River basin and the region that the Yakou Shipping Hub Project is location, which is the important foundation for in-depth field investigation.

Collection of data mainly covers the following aspects:

- Statistical data on national economic and social development; data of census survey and sample survey of population; relevant statistical data on economy and society. Statistical data and development plan of relevant statistics department.
- Policy documents related to the project, such as Compensation Method for Acquisition of Collectively Owned Land and Houses, and compensation and resettlement method for land acquisition and house demolition of other similar projects completed or in progress.
- Documents related to the project, such as Project Proposal, Feasibility Study Report, Environmental Assessment Report, and Social Stability Risk Assessment Report.

(2) Focus group interview

The social assessment group will organize a series of focus group interviews for different stakeholder groups of the project, and will discuss relevant issues regarding specific target group, so as to get an in-depth understanding of the social impact of the project, to identify the possible social risks, to explore possible project optimization plan, and to find approaches and methods to avoid and control risks. Focus group interviews will be carried out in villages intensively affected by the project. In villages with large population, multiple interviews may be carried out depending on the particular circumstance.

Select representative participants for discussion meetings, especially representative participants in gender, age, education level, social class, income level, and occupation, and special attentions shall be given to the opinions of women, old people and the under-privileged class, who shall take up a certain proportion among the interviewed targets.

(3) Field questionnaire survey

The social assessment research team will organize household questionnaire survey in the area affected by the Yakou Shipping Hub Project. The survey targets are mainly in the major villages and groups affected by land acquisition and house demolition. The survey contents include social and economic conditions, livelihood and lifestyle of affected families, possible impact of the project on them, their level of understanding on the relevant expected policies related to the project, and their attitude on the project. The questionnaire survey will use uniformly designed questionnaires and will ensure that the questions are so designed that they center on the survey topic; ensure that the concepts used in the sentences are definite and specific; avoid concepts that may cause ambiguity to surveyors and survey targets; avoid misleading sentences and address sensitive questions tactfully.

(4) Typical case interview

On the basis of field survey, general discussion meeting and application of other information collection tools, the social assessment group will select representative and typical individuals, families or entities for in-depth interview to explore the significance of such cases in the optimization of project plan and their contribution to the reduction of social risks of the project, and to put forward ideas on expanding the

social positive externalities of the project.

(5) Hearings

If the stakeholder groups require hearings on certain issues during the social assessment, the project owner, project design institute and other relevant departments shall announce the time, place, issue and participation method of the hearing in the project affected area through public media or other means known by the public; representatives participating in the hearing shall be diverse and shall be no less than 15 people. Organization of the hearings shall be subject to the Interim Methods for Public Participation in Environmental Impact Assessment and Regulations on Hearings on Land Resources.

4. Main Contents of Social Assessment

The social assessment of the project will focus on the following aspects:

(1) Analysis on the living standard and long-term development of affected population.

The social assessment is to know about the social impact that the project is likely to have on the local residents and the attitudes and responses of the project affected people, especially to know about impact on the living standard and long-term development of affected population through analysis on the employment mode and income structured of the affected families.

(2) Analysis on women's participation in the project. Women are an important part of the project stakeholders as well as a core indicator of World Bank for social impact assessment. Therefore, it is necessary to know about the special impact of the project on women and women's attitude toward the project and their participation, and to explore methods to make the project helpful for the development of women.

(3) Impact of the project on poverty-stricken population. Analyze the possible adverse impact of project implementation on poverty-stricken population and the opportunities it may bring to them, and put forward measures to seek benefits and avoid adverse impact.

(4) Analysis on impact of project implementation on fishery in the downstream area.

(5) Impact that the immersed area caused by project implementation may have and measures to avoid the impact.

(6) Analysis on impact on ethnic minorities. Analyze whether the project need to adopt the policies of World Bank on ethnic minorities through various investigations.

(7) Analysis on the social benefits of the project. Identify the major and minor beneficiaries of the project, analyze the social benefits that the project brings to the beneficiaries, and propose measures to expand the beneficiaries' income as much as possible.

5. Social Assessment Implementation Organization

Entrusted by Hubei Provincial Communications Planning and Design Institute, Academy of Development of Wuhan University will lead the social assessment together with Center for Involuntary Resettlement Research of Wuhan University. The job received strong support and cooperation of PMO.

The Academy of Development of Wuhan University is an interdisciplinary and cross-departmental institute on comprehensive development directly subordinated to the Wuhan University. It is one of the key research bases of humanities and social sciences in Hubei province. The Academy aims to conduct high level researches based on a common development target based on consensus on development objectives. Being an open research platform, it has created a new network integrating government policies, industries, study and research backed up by the relevant disciplines to provide strong intellectual support for the local economic and social development, create new think-tank and exert important social influence. The Academy of Development of Wuhan University is committed to promoting national economic construction and sustainable social development, and provides decision-making research, consultation service, strategic planning and talents training for the government, enterprises and the society.

Center for Involuntary Resettlement Research of Wuhan University is funded by the United Nation Fund for Population Activities. It is a comprehensive academic research institute integrated with research, teaching, consultation, and service, and has a long history and rich experience in social and economic survey as well as resettlement. Since the late 1980s, the Center has participated in the resettlement investigation and research, social impact assessment, resettlement planning, independent monitoring and assessment of more than 40 major construction projects

in China, and has become one of the research centers in domestic higher education institutes that have the longest history in resettlement investigation and social assessment and have participated in the most projects. The Center has distinct characteristics such as rich experience in social and economic investigation and research, proficiency in data processing, thorough understanding in involuntary resettlement policies of World Bank and Asian Development Bank, reliable working ability, timeliness in report submission, and adequacy in communication with project owner, and has formed its own style within the industry. The work performance of the Center has been appreciated by social experts from World Bank and Asian Development Bank and has been well received by project owners.

VI. Schedule

According to the overall plan of the project preparation, social impact assessment will be completed in 3 months (12 weeks) after formal entrustment. Preliminary SIA report will be submitted in the 8th week, and the final SIA report will be submitted in the 12th week. Based on such requirements, the schedule for data collection and report preparation is made as in the table below.

Table: Social assessment schedule

Content	1-2	3-4	5-7	8	9-10	11	12
Preparing SIA plan							
Communication with social experts from World Bank							
Improving and implementing the plan							
Questionnaire							
Focus group interview							
Key interview							
Literature data collection							
Investigation data sorting							
Preliminary SIA report							
Soliciting opinions							
Data supplement							
Report revising and translating							
Final report submission							

Appendix II: SIA Questionnaire of Hubei Yakou Shipping Hub Project

Dear residents,

In order to know about the social and economic conditions of residents living in the area where the Yakou Shipping Hub Project is located and the possible social and economic impact the project is likely to have, we hereby carry out this survey. We would like to inform you that your family is selected as respondents of the survey through random sample selection. We will appreciate it if you take your precious time to help us with the questionnaire. We will keep the information about you and your family confidential in strict accordance with relevant laws of the state.

We sincerely thank you for your support!

Place of survey: _____ Group, _____ Village, _____ Township (Town), _____ County

Name of respondent:

Date of survey:

I. Basic Information

1. The householder of your family is

- (1) Yourself (2) Spouse (3) Son (4) Daughter (5) Father
(6) Mother (7) Daughter-in-law (8) Brother (9) Other

2. Please fill in the Family Member Information Form person by person and item by item (information of the respondent in the first blank line of the table).

Number of family member	Relationship with the householder	Gender	Age	Education level	Marriage status	Employment/livelihood
	1 Householder	1 Male		1 No education received	1 Unmarried	1 At home, mainly farming
	2 Spouse	2 Female		2 Primary school	2 Married	2 At home, mainly non-farming business (please specify the occupation)
	3 Son/daughter			3 Junior middle school	3 Divorced	3 Out for work
	4 Son-in-law/daughter-in-law			4 Senior high school	4 Widowed	4 State cadre (including contracted and retired cadre)
	5 Grandson/granddaughter			5 Technical secondary school, technical school, or vocational high school	5 Separated	5 Local-sponsored teacher
	6 Parent			6 Junior college		6 Student
	7 Grandparent			7 Undergraduate		7 Not employed due to loss of work ability
	8 Sister/brother					8 Housekeeping
	9 Other (Please specify)					9 Retired early, laid off or unemployed
						10 Other

				or above		
1	Respondent					
2						
3						
4						
5						
6						
7						

II. Housing and Living Conditions

3. In which year is your house built? _____ (year). The housing area is _____ square meters, and the area of lumber room (if any) is _____ square meters.

4. Your family spent approximately _____ Yuan for building the house.

5. The structure of your house is:

- (1) Brick-concrete (2) Brick-wood (3) Earth-wood
(4) Earth house (5) Simple structure

6. Is your house used for leasing or business?

- (1) Yes (2) No

7. How do you feel like your housing condition?

- (1) Too crowded (2) A bit crowded (3) OK (4) Roomy (5) Very roomy

8. Generally speaking, how are you satisfied with your housing condition?

- (1) Very satisfied (2) Satisfied (3) I don't care (4) Unsatisfied (5) Very unsatisfied

III. Project Impact and Expectation

9. Do you know the Yakou Shipping Hub Project?

- (1) Yes (2) No

10. If yes, in which way are you informed of the project

- (1) Radio, TV, or newspaper (2) Government announcement (3) Relative or friend
(4) Neighbor (5) Other

11. As far as you are concerned, what impact will the Yakou Shipping Hub Project have on your family?

- (1) It will occupy your farmland (2) It will require relocation
(3) It will occupy your farmland and require relocation (4) No direct impact

If the project will occupy your farmland, the amount of farmland to be occupied is : _____ mu

Including: Cultivated farmland: _____ mu; Orchard and forest land: _____ mu

Commercial water land _____ mu;

12. 您认为雅口航运枢纽工程项目建设是否会给您个人的发展带来机会？

- (1) 会 (2) 不会 (3) 不一定 (4) 不知道

12. Do you think the Yakou Shipping Hub Project will bring an opportunity for your personal development?

- (1) Yes, it will (2) No, it won't (3) It's not sure (4) I don't know

13. Do you think the Yakou Shipping Hub Project will bring benefits for your village?

- (1) Yes, it will (2) No, it won't (3) It's not sure (4) I don't know

14. Are you willing to cooperate with the government regarding the implementation of the project?

- (1) Yes (2) No (3) I don't know (no answer)

15. If the Yakou Shipping Hub Project will occupy your farmland, what kind of compensation do you want to get?

- (1) Monetary compensation (2) Land (3) Job offered by the government
(4) Money and job opportunity (5) Other ()

16. In case of monetary compensation, in which way do you want to get the compensation?

- (1) One-off payment (2) Payment in installments (3) I don't care

17. If the Yakou Shipping Hub Project requires you to relocate, are you willing to do so?

- (1) Yes (2) No (3) No answer

18. If you are willing to relocate, what kind of compensation do you want to get?

- (1) Monetary compensation (2) New house (3) Job offer (4) Other

19. If you are not satisfied with the compensation for land acquisition and house demolition, in which way will you express your dissatisfaction?

- (1) Tolerate as much as possible (2) Appeal for higher authorities independently
(3) Go to government administration department to solve the problem on your own
(4) Seek solution of the problem through a judicial approach on your own
(5) Appeal for higher authorities jointly with others
(6) Go to relevant government department with others
(7) Other (please specify _____)

20. How much attention do you pay to the work of your company/village/community?

- (1) Very much, I often propose my opinions and suggestions
(2) Much, I propose my opinions and suggestions occasionally
(3) A bit, generally I don't express my opinions
(4) Little, I only do my own job and do not want to mind other business
(5) None, I have no interest in the work of my company/village/community

IV. Production and Operation

21. Land managed by your family:

Contracted field	Cultivated land	Transfer-in field	Transfer-out field
mu	mu	mu	mu

22. Land management by your family

Use	Annual income per mu	
(1) For crop cultivation	_____ mu	Income per mu: _____ Yuan
(2) For vegetable cultivation	_____ mu	Income per mu: _____ Yuan
(3) For cultivation of other cash crops	_____ mu	Income per mu: _____ Yuan
(4) For other use	_____ mu	Income per mu: _____ Yuan

23. On the whole the amount of time you spend in productive labor is:

- A. _____ days for agricultural productive labor
- B. _____ days for non-agricultural productive labor
- C. _____ days for going out to work
- D. Where have you been for work?
- E. What do you do when you go out to work?
- F. What is your average monthly income when you go out to work? _____ Yuan

24. On the whole the amount of time your wife/husband spends in productive labor is:

- A. _____ days for agricultural productive labor
- B. _____ days for non-agricultural productive labor
- C. _____ days for going out to work
- D. Where have he/she been for work?
- E. What does he/she do when he/she goes out to work?
- F. What is his/her average monthly income when he/she goes out to work? _____ Yuan

25. As far as you know, the proportion of agricultural income in total household income for an average family in your area is:

- (1) Below 25% (2) 25-50% (3) 50-75% (4) Above 75%

V. Income and Expenditure

26. The consumption expenditure of your family in 2015 is _____ Yuan, including:

- (1) Food expenditure approximately _____ Yuan (including rice, noodle, meat, fish, egg, vegetable etc.)
- (2) Expenditure for clothes _____ Yuan
- (3) Education expenditure approximately _____ Yuan (including tuition fees and textbook fees of children)
- (4) Medical care expenditure approximately _____ Yuan (including seeing a doctor, medicine fee, and hospitalization)
- (5) Traffic expenditure approximately _____ Yuan (going to the town or city, going to other cities to study, to work, or to visit relatives or friends etc.)
- (6) Various human and social communication expenditure _____ Yuan
- (7) Expenditure for supporting the old _____ Yuan
- (8) Recreation expenditure _____ Yuan
- (9) Water, electricity, and phone charge
- (10) Other living expenditure _____ Yuan

27. Sales of major products of your family in 2015

Product type	Output	Amount retained for family use	Amount sold as commodity	Place where the product is sold
Grain				
Vegetable				
Fruit				
Poultry and livestock (pig, sheep, chicken etc.)				

28. Income composition of your whole family in 2015

Item	Crop farming	Fishery	Poultry and livestock breeding	Industry	Construction	Trading and service	Transportation	Going out to work	Salary	Other	Total
Income (Yuan)											

29. Which level do you think your family's financial condition is among others in the whole village?

(1) Highest (2) Upper middle (3) middle (4) Lower middle (5) Lowest

30. If you receive a large amount of money in the near future, how will you use it?

(1) Use it for deposit (2) Purchase household appliances (3) Go out to travel

(4) Use it for children's wedding (5) Build a house or expand existing house

(6) Purchase household productive equipment (7) Use it for pension

(8) Other (please specify)

First _____ Second _____ Third _____

VI. Household Division of Work and Decision Making

31. Who participates in / decides the following affairs in your family?

	Mainly by the husband	Mainly by the wife	Jointly by the husband and wife	By the husband's father	By the husband's mother	Other		Not applicable
						Male	Female	
Administer family property (such as deposit, house ownership)								

certificate etc.)								
Decide which kind of livelihood to engage in								
Decide selection /building of house								
Decide division of work								
Decide on purchase of high-end goods or large productive tool								
Decide on children's education and occupation choice								
Instruct children's study								
Participate in villagers' /residents' meeting								
Decide on investment or borrowing								
Participate in neighbor's wedding or funeral								

32. In order to make a family well organized, it's better for the husband to go out and work while the wife stays at home to keep the house. How much do you agree with the view?

(1) Very much (2) A bit (3) Not clear (4) Disagree a bit (5) Strongly disagree

33. If there are no many job opportunities, men should get the job opportunities first if possible. How much do you agree with the view?

(1) Very much (2) A bit (3) Not clear (4) Disagree a bit (5) Strongly disagree

34. If a family has financial difficulty and cannot afford the education of all children, they should let the son(s) to continue to go to school as much as possible. How much do you agree with the view?

(1) Very much (2) A bit (3) Not clear (4) Disagree a bit (5) Strongly disagree
35. It's better for the husband to make important decisions in a family. How much do you agree with the view?

(1) Very much (2) A bit (3) Not clear (4) Disagree a bit (5) Strongly disagree
36. Housework (looking after children, washing clothes, cooking the meal etc.) is the due responsibility of a wife. How much do you agree with the view?

(1) Very much (2) A bit (3) Not clear (4) Disagree a bit (5) Strongly disagree

37. As far as you know, the influence of women on local public affairs is

(1) Dominating (2) Gradually increasing (3) Gradually decreasing
(4) not making any difference (5) Other

VII. Social Connection

38. When your family has a difficulty in living, generally who will you turn to for help? (select 2 options)

(1) Kinsfolk of the husband's parent (2) Kinsfolk of the wife's parent
(3) Married son's family (3) Married brother's family (4) Village cadre
(5) Township cadre (7) Neighbor (8) Friend from school (9) Other

39. Generally speaking, how are you satisfied with your current life?

(1) Very satisfied (2) Satisfied (3) Generally satisfied
(4) Unsatisfied (5) Very unsatisfied

40. How do you think life of you family will become in the next five years?

(1) Better (2) Nearly the same (3) Worse (4) I don't know

Appendix III: Outline of Villager Interviews for Hubei Yakou Shipping Hub Project

I. Economy of village collectives and livelihood and lifestyle of general farmers' family

1. Economic development of the village collective
2. Financial conditions of general family
3. Agricultural production (method, income, proportion)
4. Migrant workers (Migrant destinations, income, future development)
5. Current status of poverty-stricken population (cause of poverty, support measures and effects, possible positive and negative impact of the project)

II. Possible impact of the project

1. Understanding of the project
2. Impact of land acquisition on long-term livelihood
3. Attitude towards land
4. General practice at present
5. Expected practice
6. Impact of house demolition
7. General resettlement method
8. Possible problems in the project
9. Expected resettlement method
10. Other impacts

III. Hopes and Suggestions for the Project





