

**SHEN-DA POWER TRANSMISSION AND GRID
REHABILITATION PROJECT**

LAND ACQUISITION AND RESETTLEMENT PLAN

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Liaoning Electric Power Co. Ltd. (LEPC)

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ABBREVIATIONS AND ACRONYMS

ADB	Asian Development Bank
APs	Affected Persons
AAOV	Average Annual Output Value (over the last three years' harvest)
DMS	Detailed Measurement Survey
EA	Executing Agency
FICHTN	FICHTNER GmbH & CO. KG
LAR	Land Acquisition and Resettlement
LARP	Land Acquisition and Resettlement Plan
LEPC	Liaoning Electric Power Co. Ltd.
MPSCs	Municipal Power Supply Companies
NEPDI	Northeast Electric Power Design Institute
PB	PB Power, Merz & McLellan
PPTA	Project Preparatory Technical Assistance
PRC	People's Republic of China
PRO	Project Resettlement Office
SDF	Social Development Fund
SPEC	State Power Economic Research Centre
SRAP	Summary Resettlement Action Plan
TVEs	Township and Village Enterprises

UNITS

<i>mu</i>	area; 15 <i>mu</i> = 1 ha
ha	area; 1 ha = 15 <i>mu</i>
m ²	square metre

CHAPTER 1 INTRODUCTION

1.1 Description of the Project

The general objectives of the Shen-Da Power Transmission Line and Grid Rehabilitation Project are to: 1) increase electric supply in the southern region of Liaoning Province by transferring power from the northern regions; and 2) improve the reliability of power supply and reduction of tariffs in the selected poverty counties. The major scope of the Project includes: i) a 500kV-transmission line and six substations; and ii) a rural grid rehabilitation program in the selected nationally and municipally designated poverty counties. The Project location map is shown in **Figure 1.1**. Shenyang and Dalian municipalities will be the direct Project beneficiaries as a result of the increased electric supply from the power transmission component of the Project. In particular, four selected poverty counties – Kangping (Shenyang), Xiuyan (Fushun) and Xinbin (Anshan) as well as the municipally designated poverty county of Zhuanghe (Dalian) – will also significantly benefit from the rural grid rehabilitation program. The Project will therefore directly contribute to social development and poverty alleviation in Liaoning Province and the country as a whole.

1) Transmission Line, Substations and Communication Components

The **transmission line** includes four – 500kV single-circuit transmission lines, with total length of 502.1 km starting from the Shaling Substation in Shenyang through Shendong Substation in Shenyang, Xujia Substation in Benxi, Wangshi Substation in Haicheng, to Nanguanling Substation in Dalian.

The **Substations** covers six substations, namely a new 500/220kV substation in Shendong and 500/220kV substation in Yanshui as well as the extensions of 500kV substations in Shaling, Xujia, Wangshi, and Nanguanling and various extension measures at 220kV and 66kV level in these substations. The component will increase 2x750 MVA of main transformers (1x750 MVA for the new building of Shendong substation and 1x750 MVA for the enlarging of Nanguanling substation) and 6x250 - 6x500MVA of main transformers for the Yanshui substation.

The **Communication** mainly consists of an optical fibre ring from the Dispatch Centre of the Northeast Electric Power Network and back, via 220kV Qijia, Shendong, Xujia, Wangshi, Liaoyang, Shaling and 220kV Hunhe Substations and a line from Wangshi Substation through Nanguanling, Yanshui, 220kV Liaodong Substations to the Dalian Electric Power Bureau. The total length of optical fibre lines, mainly Optical Fibre Ground Wire (OPGW) and some All Dielectrical Self-Supporting Optical cable (ADSS), is 714 km. Ten stations will be set up.

It is planned that the construction of the transmission line and substations of the Project will be completed and operational in the year of 2003. As a result of the Project, the electric power will be transferred from the Northern network in the northeast area to the load centre in central Liaoning, then be transferred to the 500kV Shendong substation and the 500kV Nanguanling substation in Dalian through the 550 kV Shen-Da Project.

At last it will reach the end-users in Shenyang and Dalian through the corresponding items of transmission, substations and distribution project.

1.2 Socio-Economic Benefits of the Project

The planned Shen-Da Power Transmission Line and Rural Power Grid Rehabilitation Program will provide increased, secure and reliable power supplies to the various end-users. It is expected that the Project will result in positive impacts on the local populations, including the poor from the two phases of the Project: 1) construction phase: i) increased short-term construction jobs and incomes; and ii) net value-added to locals, including the poor, through the procurement of local construction materials; and 2) operation phase: i) economic benefits, including numbers of increased long-term employment opportunities and incomes, and promotion of regional economic development; ii) social benefits, including increased efficiency and time saved in performing household chores, convenience and comfort of heating, cooling and lighting, increased family entertainment, and enhanced community activities; and iii) health and environmental benefits, including reduced health risks from the reduced use of coal/fuelwood/straw for cooking and heating, reduced deforestation from the reduced use of fuelwood and water and soil erosion, and reduced air and land pollution from replacing medium-sized and small-sized coal-fired power plants, and reduced adverse effects on human health and associated savings in forgone loss of productivity, medical costs and so on. All of the above contribute to improving the standards of living of the poor and impact favourably on women and ethnic minorities who live in the Project area.

1.3 Project Land Acquisition Impacts and Resettlement

The total investment of the Project is RMB 1.724 billion. The construction of the Project will acquire 149.6 *mu* of farmland and 159.02 *mu* of non-farmland permanently, and will use 8,928.12 *mu* (2,492.1 *mu* of farmland and 6,436.02 *mu* of non-farmland) of land temporarily during the two years construction period. A total of 95 households (most are farmer households and some worker households) or 401 persons will be relocated. A total of 1,004 households or 3,120 persons will be affected by permanent land acquisition by the construction of the tower foundations of the power transmission line. Under this project, one tower will occupy the land area which is about 144 square meters (m^2) or 100 m^2 respectively, but the amount of land taken for each tower footings is about 4 m^2 essentially, the land under the towers still belongs to the original landowners, and may plant appropriate vegetation. So the area of land acquired from each household for this purpose will be only 4 square meters (the size of a tower foundation). About 53 households or 179 persons will be affected by permanent land acquisition from the construction and expansion of substations. A total of 6,560 m^2 of one-storey residential houses and 1,000 m^2 of a low-rise apartment building will be permanently affected. In addition, 61 animal pens, 23 drinking wells, 2,980 square meters of barns, 4,750 meters of fences, and 95 private toilets will also be removed. Some 21,967 persons in 7,326 households will be affected by temporary land acquisition. The total budget for LAR is estimated at RMB 36.409 million.

1.4 Preparation of LAR P

The preparation of the Land Acquisition and Resettlement Plan (LARP) was based on: (i) relevant Project reports: particularly the Chinese Land Acquisition and Relocation Program and the Project Feasibility Study Report; (ii) discussions with the principal authors of the above documents from Northeast Electric Power Design Institute

(NEPDI); (iii) field visits along the proposed project sites; (iv) discussions with the technical experts of Liaoning Electric Power Co. Ltd. (LEPC) and NEPDI; (v) consultations with various local governments, village leaders and APs; and (vi) a socio-economic survey of affected households carried out from November 25 to December 4, 2000 by NEPDI. The LARP is prepared by the PPTA consultants on the basis of the document review, data collection exercises, consultations and field observations.

CHAPTER 2 LEGAL FRAMEWORK AND POLICY

2.1 Legal Background

2.1.1 Chinese Law and Regulation

The legal framework and resettlement policies of the LAR for the Project are based on two sets of sources: Chinese laws and regulations, and ADB policy requirements. The PRC laws and regulations on land acquisition and resettlement are summarized below.

1) Land Administration Law of PRC, 1998

Revised by the People's Congress on August 29, 1998, brought into force on January 1, 1999. It is stipulated in **Clause 2, Article 1** that the state can acquire collective-owned land according to the Law for the sake of public interests. The Law requires that agreement from two thirds of villagers or two thirds of the villagers' representatives be obtained before making adjustments to the land, and be verified by the agricultural administration department of county or town government.

Article 8 states that land in urban districts is state-owned. Land in rural and suburban areas shall be owned by collectives, except for those portions, which belong to the State in accordance with the law; house plots, private plots of farmland and hills are collectively owned by peasantry.

Article 47 stipulates that in case land acquisition shall take place, compensation shall be made in accordance with the original usage of the acquired land, which shall include land compensation fee, resettlement subsidies and compensation fee for the attachment of the land and standing crops. The compensation fee for the acquired cultivated land is 6-10 times of the average annual yield of the land in the previous 3 years before land acquisition. The compensation fee for resettlement for each of the agricultural population is 46 times of the average annual yield of the land in the previous three years. However, in special cases a highest relocation allowance may be allowed as long as it does not exceed 15 times the Average Annual Output Value over the last three years or AAOV. The standards of compensation for the attachment of the land and standing crops shall be determined by the provinces or municipalities directly under the central authority.

2) Associated Provincial Laws

Provinces are empowered by the National Administration Law to introduce land management regulations and standards for compensation. These provincial regulations define: (i) the circumstances where compensation is payable; (ii) the basis to be used for calculating the amount of compensation; and (iii) general standards for the different forms of compensation (i.e., for land, crops, improvements and livelihood).

3) Forest Law of PRC

Forestry resources belong to the public unless it is written in law that it belongs to the collective. The Law protects the legal interest of users and owners. Forest Administration Department is responsible for the protection, utilisation, renewal, management and supervision of resources under the law.

4) Household Registration System

Households are registered as agricultural or non-agricultural. The urban or domicile registration “hukou” may be changed by applying to the relevant Administration Department on submission of appropriate certificates of employment or enrolment in academic institutions.

5) Administrative Regulations for Urban Houses Demolition

In the No. 78 Order for the State Council, it is clearly stated that relocated persons should be compensated and re-settled. It is also clearly stated that relocated persons must serve the needs of urban construction and complete the resettlement within limited period.

6) Provisional Taxes Regulation for Cultivated Land Acquisition (1987)

Issued by the State Council on April 1, 1987, the regulation states that both units and individual persons who construct buildings on farmland or who use farmland for non-agricultural purposes shall pay taxes for farmland occupation, according to the regulations.

7) Associated Municipal Regulations

The associated regulations include “Compensation Standard of LAR in Benxi City”, and “Administrative Regulation for Forest Land in Dalian City”.

The above regulations cover different aspects of resettlement of affected persons (APs) such as the need for minimising resettlement, evaluation of properties, determination of compensation, restoration of incomes and living standards, and institutional responsibilities.

2.1.2 ADB’S INVOLUNTARY RESETTLEMENT POLICY

The Asian Development Bank has formally set out its requirements in the Involuntary Resettlement Policy adopted in 1995. The Policy requires that people displaced by development projects should have their former living standards and income earning capacity improved or at least restored.

Taken together, the principles of land acquisition and resettlement are based on China’s land administration and provincial/municipal laws and regulation as well as the ADB requirements and procedures. The primary objectives of the LARP are to restore the income and living standards of the affected persons (APs) within a short period of time after resettlement and with as little disruptions as possible in their own economic and social environment. Particular attention will be given to the needs of the poorest and vulnerable groups to be resettled. The LARP for this Project has been prepared with this as the guiding principle. **Table 2.1** presents some of the main elements of the approach, which meets the ADB requirements as outlined in the Involuntary Resettlement Policy and ADB Handbook on Resettlement.

Table 2.1. LAR Principles and Approach

LAR Principles	Approaches
1. Involuntary resettlement should be minimised where feasible from an economic, engineering, social and environmental aspect.	Resettlement issues have been considered for project alternatives during project design stage, which could minimize land acquisition and resettlement.
2. Plans should be prepared for those displaced.	APs identified and their land, buildings and other assets enumerated during project design; socio-economic survey conducted to assess impact and propose mitigation.
3. APs should receive compensation for all losses, including assets and livelihoods regardless of land tenure status.	Replacement land will be provided; cash compensation for land, houses and auxiliaries, crops, etc. in accordance with existing procedures; LARP includes provisions for other assistance.
4. APs should be informed of and consulted on resettlement and compensation options.	Meetings with APs, village leaders, local governments and host communities were held; household interviews and socio-economic survey of APs were conducted. Information campaigns through the local media and meetings to inform the APs and host communities will be made available through township governments, village committees and municipal power supply companies. This process will continue throughout the planning and implementation stages.
5. Resettlement should be an integral part of project design. No land acquisition will take place prior to the satisfactory and resettlement of APs.	Environment and resettlement aspects were considered as major factors for the selection of the project scheme, including the minimisation of land acquisition and house demolition and avoidance of good-quality farmland, major infrastructure facilities, industrial enterprises, township and residents-concentrated areas, and mining, forestry, tourist areas. Project schedule will take into account land acquisition and resettlement timetables.
6. Resettlement program to be monitored by the Government and ADB.	An independent agency will be engaged, under terms of reference acceptable to ADB, to monitor the land acquisition and resettlement plan and to report on it to the Government and ADB.

2.2 Principles of Compensation

In accordance to the legal and policy requirements of the Chinese government and the Asian Development bank, the principles of the compensation and entitlements established for the project are as follows:

- That compensation and entitlements provided to APs are adequate to at least maintain their pre-project standard of living, with the prospect of improvement;
- Land temporarily occupied an period of disruption are kept to a minimum;
- All APs, legal and illegal, are taken into consideration and accounted for;
- Per capita land holding after land acquisition is sufficient to maintain livelihood standards;
- Where land allocation per capital is not sufficient to maintain livelihood, other income generating activities are provided for;
- All APs are adequately informed on eligibility, compensation rates and standards, livelihood and income restoration plans, and project timing.
- No land acquisition will take place prior to satisfactory compensation and resettlement of the APs.

2.3 Compensation Eligibility and Beneficiaries

All APs losing land, buildings, crops or sources of income will be compensated or rehabilitated in accordance to the type and amount of their losses as long as they are included in the final Detailed Measurement Survey (DMS) to be concluded on 31 August, 2001, or are identified as affected by temporary impacts during construction.

The cut-off date for compensation eligibility has been set as the 31 August, 2001. APs cultivating land, constructing buildings or settling in project affected areas after the cut-off-date will not be eligible to compensation or subsidies.

Detailed compensation and rehabilitation provisions are defined in the following sections.

2.3.1 Agricultural and Orchard Land compensation

Permanent agricultural land losses will be compensated in cash to the affected villages at a rate equivalent to **10 times** the AAOV. Individuals or entities legally using affected plots will be compensated in terms of "land for land" mechanisms through redistribution of land within the village territory.

Tenants/labourers will be guaranteed of a rental contract equal to the remaining years of their previous contract. Contract terms will be equivalent to those of the old contract.

Temporary agricultural land losses will be directly compensated in cash to the APs through a land recovery subsidy equivalent to **2 times** the AAOV Relative to the crops cultivated in the affected plot. Land cannot be occupied for more than 2 years.

2.3.2 Forest Land

Permanent forestry land losses will be compensated in cash to the affected Forest Bureaus at a rate equivalent **RMB 8,700** per *mu* of land affected.

2.3.3 Residential Land, Houses and buildings

Residential land, houses and building losses will be directly and fully compensated to all APs irrespectively of their legal status. Residential land will be compensated in terms of "land for land" arrangements with selected replacement plots within the village estate. Houses, other buildings and apartments will be compensated in cash at replacement cost (cost of materials plus work).

Renters of affected houses/buildings will be guaranteed of a rent contract at the same terms of the rent before.

2.3.4 Crops

All APs including tenants and APs without legal title will directly receive full compensation in cash for the crops lost calculated at **1 time** the AAOV. Crops compensation will be given in addition to the land recovery subsidy.

2.3.5 Business losses subsidy

APs affected by business losses will be rehabilitated through a monthly **RMB 2,000** allowance for each month in which business activities are suspended.

2.3.6 Land relocation subsidy

All APs affected by permanent agricultural land losses will be entitled to receive a land relocation subsidy equivalent to **15 times** the AAOV

2.3.7 Resettlement allowance

All APs affected by house/apartment loss will receive the following allowances:

- | | |
|--------------------------------------|-----------------------|
| (i) transfer/transportation expenses | 300 Rmb per household |
| (ii) work losses | 250 Rmb per household |
| (iii) transfer losses | 150 Rmb per household |
| (iv) medical costs | 200 Rmb per household |
| (v) temporary housing | 150 Rmb per household |

2.3.8 Training allowance for Severely affected APs

Severely affected APs (APs losing more than 10% of their land or APs affected by relocation) will receive a special training allowance covering the cost of transportation, food and lodging necessary to reach and stay for two weeks (10 working days) in the County or Township center where their training courses are administered. The allowance is to be given in two quotas of RMB 200 to each affected household. One quota will be given to one male household member and the other to one female household member.

2.3.9 Summary of Compensation Eligibility Principles

Table 2.2 below summarizes the types of people who are eligible for compensation and entitlements.

Table 2.2. Summary Eligible People

Component	Eligibility	Eligible People
Transmission Line	<ul style="list-style-type: none"> People losing land, buildings, crops or business within 60 m right-of-way of transmission line corridor or affected by 144 m² double-circuit towers and 100 m² single-circuit towers 	<ul style="list-style-type: none"> 95 households (401 people) to be relocated 328 rooms or 6,560 m² of one-storey brick houses 1,000 m² low-rise apartment building to be demolished auxiliaries 1,004 households to be affected by permanent land acquisition 149.60 <i>mu</i> of cultivated farmland and 159.02 <i>mu</i> of non-cultivated farmland permanently affected 8,928.12 <i>mu</i> of temporarily affected land
Substations	<ul style="list-style-type: none"> People who are living, working or owning a business within right-of-way of the road construction outside of Shendong substation 	<ul style="list-style-type: none"> 53 households affected by permanent land acquisition 230.25 <i>mu</i> of cultivated dry land permanently affected 30 <i>mu</i> of orchards permanently affected
Other	<ul style="list-style-type: none"> People affected by service passages or deposits 	<ul style="list-style-type: none"> (to be determined) to be affected by temporary land acquisition

2.4 Calculation of Compensation Rates

2.4.1 Agricultural Land and Crops

Combined together, land compensation, land relocation allowance and standing crops compensation for the Project is equal to 26 times the AAOV. The detailed standards of compensation for the LAR of the Project, which include the relocation allowance and standing crops, are included in **Table 2.3**. The total costs for different types of land can be found in **Table 9.1** in **Chapter 9**.

Table 2.3 Compensation Rate of Permanent Land Acquisition

Type of Land		Production (kg/mu)	Unit Price (RMB/kg)	Compensation Factor (x AAOV)			Total (RMB/mu)
				Land	Relocation Allowance	Standing Crops	
Dryland	corn	910	0.86	10	15	1	20,350
	soybean	210	2.00	10	15	1	10,920
	sorghum	900	1.00	10	15	1	23,400
Paddy Field		600	1.40	10	15	1	21,840
Economic Land	tobacco	160	5.00	10	15	1	20,800
	peanut	170	2.00	10	15	1	8,840
Woodland		-	-	-	-	-	8,700
Orchard Land		1,500	0.80	10	15	1	31,200

Note: No agricultural land with perennial crops is required.

Land compensation will be used by local governments to develop the productive capacity of the remaining land in their jurisdiction and/or develop other economic activities within their jurisdiction. In the case of this Project, this include: (1) reallocation of land in the village/township; (2) new land development; and (3) establishment and expansion of existing enterprises by the township governments to create jobs for APs.

As regulated in the Article 47 of the Land Administration Law of 1998 the temporary use of state-owned land or collectively-owned farmland for project construction shall be approved by the land administration department of the people's governments at or above the country level. If the land to be temporarily acquired is located within an urban planning area, approval shall be obtained from the city planning department before submitting the application to the land administration department.

Compensation rates calculation for temporary land losses is provided in **Table 2.4**. The total cost for different types of land can be found in **Table 9.1** in **Chapter 9**.

Table 2.4 Compensation Rate for Temporary Land Acquisition

Type of Land		Production (kg/mu/yr)	Unit Price (RMB/kg)	AAOV (RMB)	Compensation Factor (x AAOV)		Rate of Compensation (RMB/mu)
					Standing Crop	Land Recovery	
Dryland	corn	910.00	0.86	783	1	2	2,349
	soybean	210.00	2.00	420	1	2	1,260
	sorghum	900.00	1.00	900	1	2	2,700
Paddy Field		600.00	1.40	840	1	2	2,520
Economic Land	tobacco	160.00	5.00	900	1	2	2,700
	peanut	170.00	2.00	340	1	2	1,020
Woodland		-	-	-	-	-	8,700
Wasteland		-	-	-	-	-	0

Note: No perennial crops are cultivated in agricultural land

At the end of the construction period, the EA will be responsible to rehabilitate the land and restore the productive capacity before returning the land to the APs. The affected persons can

then resume their agricultural occupations. In order to reduce the impact of land acquisition on crops, construction will begin after the crops have been harvested and before new crops have been planted, whenever possible and practical. For the forest area, new trees will be planted after the construction is completed. Relevant regulations will be abided by for the compensation of trees.

2.4.2 Houses, Buildings and Improvements

All houses will be compensated at replacement cost. For this Project, the transfer and transportation costs are included in the compensation. The standards for brick houses and the apartment building are RMB 350 per m², RMB 180 per m² for barns, RMB 500 per well, RMB 700 per animal pen, RMB 90 per meter for fences and RMB 200 per private toilet.

2.5 Other Entitlements

Incorporation of the needs and interests of women, elderly and children will be ensured, special attention will be given to the potential difficulties faced by low-income earners in the affected villages in resettlement planning and implementation. Such provision and special attention will be ensured through focused consultation and participation programs. When there are adverse impacts on women, elderly and children, and poor families, additional social assistance will be made available to them. Details can be found in **Section 4.3** through **Section 4.7**.

2.6 Entitlements Matrix

From the inventory survey by the NEPDI, the major impacts of LAR have been identified based on the nature of losses, an Entitlement Matrix has been prepared as a guide to compensation payments. It is presented in **Table 2.5**.

Table 2.5. Entitlement Matrix

Type of Losses	Entitlement	Compensation Standards	Other Measures
Permanent land loss <i>3,120 APs in 1,004 households</i>	Cash payment to villages and forest bureau	<ul style="list-style-type: none"> • Re-allocation of replacement land • Cash compensation for land: RMB 20,350 per <i>mu</i> for corn field, RMB 10,920 for soybean, RMB 23,400 for sorghum, RMB 21,840 for paddy land, RMB 20,800 for tobacco growing land, RMB 8,840 for peanut growing land, RMB 8,700 for woodland, and RMB 31,200 for orchard land. No compensation will be paid for marsh land. • Land Relocation allowance (15X AAOV) and compensation for standing crops (1x AAOV) will be paid. 	<ul style="list-style-type: none"> • Reassignment of collective land • Cash to township governments to develop alternative agricultural/ forestry production and to local enterprises or township and village enterprises (TVEs) to offset livelihood losses.
Temporary land loss <i>21,967 APs in 7,326 households</i>	Cash payment to APs	<ul style="list-style-type: none"> • Cash compensation for land: RMB 2,349/mu for corn field, RMB 1,260 for soybean, RMB 2,700 for sorghum, RMB 2,520 for paddies, RMB 2,700 for tobacco growing land, RMB 1,020 for peanut growing land, and RMB 8,700 for woodland. No orchard land will be acquired. No compensation will be paid for marsh land. • Land recovery allowance (2 x AAOV) will be paid. 	<ul style="list-style-type: none"> • Restore the land to its original condition • Exemption for two years of agricultural taxes
Houses buildings and auxiliaries <i>401 APs in 95 households</i>	Cash payment to APs	<ul style="list-style-type: none"> • Compensation in cash at replacement rates. • Replacement house foundation given. • Special Resettlement subsidy paid. 	<ul style="list-style-type: none"> • APs can reuse materials of original house • APs will receive various resettlement subsidies

Type of Losses	Entitlement	Compensation Standards	Other Measures
Business Losses <i>3 shops, 10 APs</i>	Cash payment to the private owners	<ul style="list-style-type: none"> • Asset valuation to determine replacement costs. • Cash compensation for structure • Full compensation for transfer costs of equipment/facilities to new location • Net losses in businesses and salaries of lost working time • Business losses allowance (RMB 2,000 x months of business lost) will be paid 	<ul style="list-style-type: none"> • Salvageable materials can be reused

CHAPTER 3

IMPACTS BASE-LINE INFORMATION

3.1 Types of Losses

From the inventory surveys, the following categories of losses have been identified:

- Loss of farmland (dry land, paddies, economic land);
- Loss of non farmland (woodland, orchard land and marsh land);
- Temporary land acquisition;
- Loss of homestead (house plots);
- Loss of houses and auxiliaries;
- Loss of small shops;
- Loss of other productive assets, such as fruit trees, regular trees and standing crops.

3.2 Minimization of Land Acquisition and Resettlement

The major components of the Project include the construction of 502 km transmission line and construction or expansion of six substations. The transmission line route is divided into four sections: i) Shaling-Shendong section (Shaling Substation to Shendong Substation); ii) Shendong-Xujia section (Shendong Substation to Xujia Substation); iii) Xujia-Wangshi section (Xujia Substation to Wangshi Substation); and iv) Wangshi-Nanguanling section (Wangshi Substation to Nanguanling Substation). The six substations include: i) Shaling Substation; ii) Xujia Substation; iii) Wangshi Substation; iv) Nanguanling Substations; v) Shendong Substation; and vi) Yanshui Substation.

Along the transmission line, alluvial plains and hills account for about 22.4% (112.5 km) of the land area and semi-mountains about 77.6% (389.5 km). In the plain/hill areas, the main agriculture products include corn, Chinese sorghum, rice, wheat, soy bean and so on. The main economic crops are rape, peanut, cotton, and natural fibers. The forested area covers about 30% of the total land area along the total length of the transmission line. In addition, there are 12 square km of economic woodland used for silkworm production and 63 square km of fruit gardens.

During the design stage of the Project, the minimization of land acquisition and resettlement has been taken into account. The following considerations have been incorporated into the selection of the transmission line route and the substation sites:

- Avoid major infrastructure facilities and industrial enterprises;
- Avoid or minimize existing and planned human settlements (rural and urban);
- Avoid or minimize the occupation of good-quality cultivated land;
- Utilize existing national and local roads to provide access to proposed alignments;
- Avoid or minimize the use of areas with dangerous topographic features or poor geological conditions;
- Avoid or minimize the occupation of environmentally sensitive areas;
- Avoid or minimize the relocation of any ethnic minorities.

It is planned that triangularly arranged conductors on towers will be utilized in forested and more densely populated areas, which can reduce the width of transmission corridor by 13 m to 15 m, comparing with that of parallel arranged conductors. Other measures have also been thoroughly considered, such as improving the average distance between two towers and as far as possible using the self-stand towers so as to decrease the areas of permanent land acquisition.

Moreover, it has been agreed by the Liaoning Electric Power Company and Dalian Electric Power Bureau that the proposed Shen-Da transmission line will use the corridor of an existing 220 kV power line and turn another existing 220kV line into an underground cable. Although this new design will result in higher costs, it will avoid the trespassing the Jinzhou Textile School and the demolition of its teaching building.

In addition, in order to reduce the impact of the Project on forests, the LEPC has recently decided to raise the height of the transmission line, eliminating the need for cutting any trees. The new design will be able to reduce the acquisition of forest land from 10,530.28 *mu* to 847.50 *mu*, substantially reducing the LAR budget.

3.2.1 Transmission Line

i) Shaling-Shendong section

This section's route starts from Shaling Substation, extends to Baixintai in the north at the west of Masanjiazi, and then turns to the east to Hushitai. To avoid over-crossing Huishan Tourist Area, the route turns from northeast to the southeast, detouring about 2 km away from the south of Huishan scenic area to Shendong Substation. The total length of the section is some 67 km. Most of the area is flat (accounting for 81.8% of the section), consisting mainly of farmland. Hills account for 12.2%. Around the city of Shenyang, the line will be detoured many times to minimize resettlement.

ii) Shendong-Xujia section

This section's route starts from Shendong substation, and detours around the Development Zone of Lishizhai over-crossing Hunhe River to southwest. Then it goes south along the road at the west of Lishizhai, entering Xujia Substation after crossing Shenzi, Zhujia and Baiqingzhai. The total route length is about 62 km. The whole route is relatively straight, and the Shendong-Zhujia leg follows a road on flat ground or in low hills. Most of terrains of the section from Zhujia to Xujia substation are low mountainous regions, where the route crosses through the edge of the Baiqingzhai Scenic Spot. In this section, flat land accounts for 16.6%, hilly land 27.6%, mountainous land 55.8%. Only minimum land acquisition and resettlement is involved.

iii) Xujia-Wangshi section

This section's route begins from Xujia Substation going westerly to Hejiagou, after avoiding the Shenwo Reservoir. After this the line turns to southwest, passing the place between Ping'an and Xiaotun, and detours Tanghe Reservoir going south towards Xiadalian River. Finally the line turns southwest at the Xiadalian River bent, detours Qianshan Scenic Spot westerly ending at Wangshi Substation in Haicheng City. This section length is about 118 km. The route passes through high mountains and dense forests of high scenic value and little population. To avoid the Tanghe Reservoir Nature Protection Zone and Qian Mount Tour Scenic Spot, the route goes in "S" type. In this section, flat land is 10%, hilly land is 20%, and mountainous land are 70%, very minimum land acquisition and resettlement will be needed.

iv) Wangshi-Nanguanling Section

This section starts at Wangshi Substation of Haicheng City to Nanguanling Substation, Dalian City. The length of the route is 225 km, the longest of all sections. The topology along the route is very complex, with flat hills (26.3%), mountains (65.9%), and high and huge mountains (7.8%). With condensed rural development and construction along the route, the corridor of the section is very confined, especially along the section in Jinzhou district. In order to avoid the villages, houses and poor topology, the route of the transmission line will go parallel to the Hai-

Da transmission line.

3.2.2 Substations

i) Shaling Substation

The Shaling Substation is an extension project. It is situated between Lanshengtai and Tuanjie Village in the Shaling Township of Yuhong District, Shenyang City. It is about 400 m away from the south of the Shenyang-Xinminxian Road, about 1.5 km away from the east of Shaling Township, about 300 m away from the north of Tuanjie Village, and about 18 km away from Shenyang Railway Station. The surrounding land consists mostly of flat rice fields. **The extension of the substation does not involve any land acquisition or resettlement.**

ii) Shendong Substation

The Shendong Substation will be a new construction. It is located about 1.0 km away from the southwest of Yaogou Village of Gaokan Township, Dongling District, east of Shenyang City, and about 40 km away from Shenyang North Railway Station. **It is necessary to acquire 156.15 mu of dry farmland with corn being the main crop.**

iii) Xujia Substation

The Xujia Substation is an extension project. It is located to the west of Lijiapu Village of Gaotai Township of Mingshan District, northeast of Benxi City, close to the joint of Dadiangou and Gaotaigou. It is about 14 km away from Benxi City, and about 100 m away from Benxi-Fushun Road to its east. The terrain is relatively flat. **About 9.9 mu dryland will be required as a result of the extension.**

iv) Wangshi Substation

The Wangshi Substation is also an extension project. The project site lies near Zhoushi Village of Wangshi Township, about 10 km away from the east of Haicheng City, and about 12 km away from Haicheng Railway Station. The terrain of the location is relatively high land, and the land is infertile. The Erdao River (small seasonal river) is about 2 km to the north of the Substation. **The extension of the substation will involve 11.85 mu of dryland.**

v) Nanguanling Substation

The substation is again an extension project. It is situated close to the Hongjiawopeng Village, about 1.8 km away from Dalian-Jinzhou Road in the north and 1.5 km to the Dalian Third Cement Factory. Located at the edge of low mountains, the location is mostly hilly. It is surrounded by vegetable land and farmland where apple trees are intercropped. **About 82.35 mu of dryland will be required by the extension of the substation.** The land is mainly planted with corns, except for 30 mu with apple trees.

vi) Yanshui Substation

This substation will be a new structure. Initially it was proposed that the road outside the substation would have to be widened. As such, about 49.5 mu of non-cultivated land would be acquired and 24 households (72 persons) would be relocated and 1,200 m² of shack houses would be removed. However, during the PPTA Loan Fact-Finding Mission, it was determined that the road widening would not be necessary. Consequentially **no land acquisition or house relocation will occur.**

3.3 Impacts Identification

3.3.1 Status of Design and Impacts Base-line Information

At the moment of the writing of this LARP transmission line corridors have been fixed. Location and areas of sub-stations have also been fixed though some variation in the alignment of the edge of the sub-station areas is still possible. As for transmission towers, corner towers location has been finalized but the location of a few straight-line towers may still be changed. The number of towers planned is 1,264.(444 double-circuit and 820 single-circuit), but this figure may be reduced of 10-20 single-circuit units when final design is concluded. Definitive number and location of straight-line towers and final definition of substation-area edges will be available by 15 July 2001.

Impacts where surveyed in the field in March , 2001; survey results are provided in the following sections of this chapter. Since, as explained above, the design of some project component is not fully finalized the degree of precision to which impacts have been identified varies as detailed below:

- i.) Temporary land and house/relocation impacts have been fixed; **APs are fully identified;**
- ii.) Sub-station locations/ impact areas have been fixed; however exact alignment of their perimeter is not yet final; this means that **some change in impact figures and AP identity is still possible.**
- iii.) Positions of corner T/L towers is fixed and **relative impacts and APs are fully identified;**
- iv.) Number/position of straight-line towers is nearly fully identified; however some changes are still possible; **towers number may decrease and changes in the identity of a few APs are possible.**

Final design data will be available by mid-July. It is expected that the variation between final and current data will be minimal. This notwithstanding, following the completion of final design a Detailed Measurement Survey (DMS) will be carried out anew to fix impact figures and eventually adjust costs. The DMS and eventual costs adjustment update will be completed by mid August and sent to ADB by 31 August.

3.3.2 Summary Impacts Data

The Project covers six (6) regions, nine (9) cities and four (4) counties of the Liaoning province. Of the total length of the power transmission line at 502 kilometres, 22.4% will cross plain and hilly areas and 77.6% mountainous and semi-mountainous areas. Under the 500kV transmission line, only land occupied by towers will be acquired permanently. Ninety five (95) houses under the corridor will be demolished and people will be relocated according to the relevant regulations. The construction and the expansion of the sub-stations and the construction of a road outside of Shendong substation will require land acquisition.

A total of 401 persons (204 men and 197 women) in 95 households will have to be relocated by the construction of the transmission line. A total of 6,560 m² of one-storey residential houses and 1,000 m² of a low-rise apartment building will be permanently affected. Additional building losses are: 61 animal pens, 23 wells, 2,980 square meters of barns, 4,750 meters of fences,

and 95 private toilets will also be removed.

Fifteen (15), eight (8), six (6) and twenty four (24) households (in all 53 households or 179 persons) will also be affected by the permanent land acquisition for the substations of Shendong, Xujia, Wangshi and Nanguanling, respectively. A total of 1,004 households or 3,120 persons will be affected by permanent land acquisition by the construction of the tower foundations of the power transmission line, but the area of land acquired from each household for this purpose will be only 144 m² or 100 m² for double circuit and single circuit towers respectively. Transmission line towers impacts will result in the permanent acquisition of 308.62 *mu* of farmland and non-farmland. The construction or expansion of substations will cause the permanent acquisition of 230.25 *mu* of farmland and 30.00 *mu* of orchards. Per capita permanent land losses are very small. In most cases are below or much below 5% and only in few occasions go beyond that percentage but never exceed 10%.

21,967 persons in 7,326 households will be affected by temporary land acquisition. This will affect 2,492.10 *mu* of farmland and 6,436.02 *mu* of non-farmland. It is expected that temporary land acquisition will not last more than one agricultural season.

In general, the LAR of the Project is relatively small, compared with other projects. Impacts caused by the transmission line are detailed on table 3.1 (house impacts); table 3.2 (permanent land acquisition); table 3.3 (temporary land acquisition); and table 3.4 (data on permanently and temporarily affected land by land type.) Data on permanent land acquisition caused by the construction of the sub-stations are provided on table 3.5 (absolute impacts by affected households and land type) and 3.6 (impacts relative to land distribution within village estates.)

3.3.3 Transmission Lines Impacts

More specifically, the sections of transmission line from Shaling to Shenyang, Shenyang to Xujia, Xujia to Wangshi, and Wangshi to Nanguanling will pass through 36, 41, 45 and 90 villages (totaling 212 villages) respectively where 264, 194, 149 and 397 households (totaling 1,004 households) will be affected by the permanent land acquisition from the construction. The transmission line, in Shenyang, will pass through 15 townships and 70 villages, in Benxi, 4 townships and 18 villages, in Liaoyang, 7 townships and 23 villages, in Anshan 5 townships and 24 villages, in Yingkou 7 townships and 34 villages and in Dalian, 13 townships and 43 villages. It will require temporary occupation of 8,928.12 *mu* of land (2,492.1 *mu* of farmland and 6,436.02 *mu* of non-farmland), which can be restored after the construction is completed.

1) houses and buildings

Transmission lines will require the removal of all houses and buildings within the ROW. All houses and building to be affected are brick-made. They include 43 affected households with brick-tile houses, and 46 households and a low-rise apartment building with brick-concrete structures. The most seriously affected areas by resettlement are Yuhong, Shenyang (Shaling-Shendong Section) and Jinzhou District, Dalian (Wangshi-Nanguanling Section). The numbers of rooms demolished are as follows :

- (1) Jinzhou District of Dalian (197 rooms and a 1,000 m² building)
- (2) Yuhong of Shenyang (49 rooms)
- (3) Pulandian of Wangshi-Nanguanling Section (24 rooms)
- (4) Haicheng of Wangshi-Nanguanling Section (20 rooms)
- (5) Dongling of Shendong-Xujia (19 rooms)
- (6) Ganjingzi of Wangshi-Nanguanling Section (11 rooms), and

(7) Dengta of Xujia-Wangshi Section (8 rooms).

In addition, there are three (3) small retail shops that need to be relocated to new places. They can be re-opened immediately after the relocation, and no loss of jobs will be expected.

2) Land

Permanent land acquisition impacts of the transmission line are as follows:

- (1) Gaizhou of Wangshi-Nanguanling Section (34.65 *mu*)
- (2) Yuhong of Shaling-Shendong Section (34 *mu*)
- (3) Wafangdian of Wangshi-Nanguanling (26.76 *mu*)
- (4) Xinchengzi of Shaling-Shendong Section (24.87 *mu*)
- (5) Dongling of Shendong-Xujia Section (24.47 *mu*)
- (6) Jinzhou of Wangshi-Nanguanling Section (19.78 *mu*)
- (7) Haicheng of Wangshi-Nanguanling Section (19.19 *mu*)
- (8) Dongling of Shaling-Shendong Section (16.66 *mu*)
- (9) Gongchangling of Xujia-Wangshi Section (15.25 *mu*), and;
- (10) The rest of the affected areas, including Dashiqiao of Wangshi-Nanguanling Section, Liaoyangxian of Xujia-Wangshi Section and so on, where less than 15 *mu* of land will be affected.

Temporary impacts on land will occur all along the transmission lines ROW where there is farmland. The most seriously affected areas include Wangshi-Nanguanling Section (9,908.06 *mu*), then Xujia-Wangshi Section (6,742.00 *mu*), Shendong-Xujia Section (1,987.80 *mu*) and lastly Shaling-Shendong Section (1,097.00 *mu*).

3.3.4 Substations Impacts

The construction or expansion of the substations will not require the removal of houses. Land acquisition in case of Shaling and Yanshui stations will not be necessary. As for the other substations permanent land acquisition impacts are as follows:

- (1) Shendong Substation of Shenyang City (156.15 *mu*)
- (2) Nanguanling Substation of Dalian Cit (82.35 *mu*)
- (3) Wangshi Substation of Haicheng City (11.85 *mu*)
- (4) Xujia of Benxi City (9.90 *mu*)

Table 3.1 Transmission Lines: House impacts

Name of Section	Length (km)	Location	Length of Power Line (km)	House Losses			
				Flat houses		No of Households	No. of Persons
				No. of Rooms	m ²		
Shaling-Shendong	67	Yuhong	30.30	49	980	22	77
		Xinchengzi	21.60	-	-	-	-
		Dongling	14.70	-	-	-	-
Shendong-Xujia	62	Dongling	46.80	19	380	7	24
		Xihu	8.50	-	-	-	-
		Mingshan	6.70	-	-	-	-
Xujia-Wangshi	118	Mingshan	6.30	-	-	-	-
		Xihu	6.60	-	-	-	-
		Benxi ^a	3.40	-	-	-	-
		Dengta	15.90	8	160	3	9
		Liaoyangxian	30.80	-	-	-	-
		Gongchangling	34.00	-	-	-	-
		Haicheng	21.10	-	-	-	-
Wangshi- Nanguanling	255	Haicheng	34.50	20	400	5	23
		Dashiqiao	19.80	-	-	-	-
		Gaizhou	63.80	-	-	-	-
		Wafangdian	50.50	-	-	-	-
		Pulandian	30.70	24	480	6	27
		Dalian ^b	6.60	-	-	-	-
		Jinzhou	31.30	197	3,940	50 ^c	227
		Ganjingzi	17.90	11	220	2	14
TOTAL			501.80	328	6,560	95	401

Note:

^a Benxi Economic Development Zone^b Dalian Economic Development Zone^c including six (6) households (23 persons) living in a low-rise apartment building (1,000 square meters).

Table 3.2 Transmission Lines: Permanent land acquisition

Power Line Section	Power Line Length (km)	Location	Power Line Lenght (km)	Permanent Land Acquisition			
				Farmland ^c (mu)	Non-Farmland ^d (mu)	Households	Persons
Shaling-Shendong	67	Yuhong	30.30	33.50	0.50	118	310
		Xinchengzi	21.60	23.74	1.00	78	221
		Dongling	14.70	10.06	6.50	68	211
Shendong-Xujia	62	Dongling	46.80	20.07	4.40	140	438
		Xihu	8.50	3.65	5.75	29	106
		Mingshan	6.70	2.88	4.46	25	80
Xujia-Wangshi	118	Mingshan	6.30	-	2.82	4	18
		Xihu	6.60	-	2.97	3	16
		Benxi ^a	3.40	-	1.51	0	0
		Dengta	15.90	-	8.36	12	37
		Liaoyangxian	30.80	5.45	9.59	64	201
		Gongchangling	34.00	-	15.25	2	9
		Haicheng	21.10	5.05	3.20	64	213
		Wangshi-Nanguanling	255	Haicheng	34.50	11.88	7.31
Dashiqiao	19.80	-	10.46	4	15		
Gaizhou	63.80	1.97	32.67	10	38		
Wafangdian	50.50	-	26.75	5	19		
Pulandian	30.70	-	14.22	2	8		
Dalian ^b	6.60	3.47	-	28	72		
Jinzhou	31.30	18.48	1.30	140	436		
Ganjingzi	17.90	9.40	-	87	293		
TOTAL			501.80	149.60	159.02	1,004	3,120

Notes:

^a Benxi Economic Development Zone^b Dalian Economic Development Zone^c Farmland includes dryland, paddy land and economic land^d Non-farmland includes woodland, orchard land and marsh land.

TABLE 3.3 TRANSMISSION LINES: TEMPORARY LAND ACQUISITION

Power Line Section	Power Line Length (km)	Location	Power Line Lenght (km)	Temporary Land Acquisition			
				Farmland (mu)	Non-Farmland (mu)	House-holds	Persons
Shaling-Shendong	67	Yuhong	30.30	340.2	98.5	649	2301
		Xinchengzi	21.60	260.2	78.5	409	896
		Dongling	14.70	114.3	34.4	278	1039
Shendong-Xujia	62	Dongling	46.80	299.1	560.8	993	2867
		Xihu	8.50	98.5	160.6	379	1225
		Mingshan	6.70	76.2	123.4	82	320
Xujia-Wangshi	118	Mingshan	6.30	34.4	286.5	118	365
		Xihu	6.60	28.5	210.4	117	360
		Benxi ^a	3.40	22.7	198.9	60	180
		Dengta	15.90	36.9	340.7	238	430
		Liaoyangxian	30.80	46.0	331.4	225	564
		Gongchangling	34.00	62.1	540.7	285	862
		Haicheng	21.10	47.4	371.3	203	800
Wangshi-Nanguanling	255	Haicheng	34.50	188.4	540.8	610	1789
		Dashiqiao	19.80	88.9	250.8	326	990
		Gaizhou	63.80	270.6	767.6	1336	3801
		Wafangdian	50.50	196.4	623.4	352	1062
		Pulandian	30.70	118.7	410.4	204	618
		Dalian ^b	6.60	21.3	65.7	79	320
		Jinzhou	31.30	94.6	310.6	303	978
		Ganjingzi	17.90	46.7	130.6	80	200
TOTAL			501.80	2492.1	6436.0	7326	21967

Notes:

^a Benxi Economic Development Zone^b Dalian Economic Development Zone^c Farmland includes dryland, paddy land and economic land^d Non-farmland includes woodland, orchard land and marsh land.

Table 3.4 Transmission lines: Type of land permanently or temporarily affected (for land and affected crops value calculation)

Type of LA	Section	Dryland			Paddy Land	Economic Land		Non-Farmland			Total
		Corn	Soybean	Sorghum		Tobacco	Peanut	Wood Land	Orchard Land	Marsh Land	
Permanent	Shaling-Shendong	15.30	8.60	11.70	26.20	2.50	3.00	5.70	0.80	1.50	75.30
	Shendong-Xujia	7.30	4.20	7.70	6.80	0.20	0.40	13.50	0.90	0.20	41.20
	Xujia-Wangshi	4.20	2.10	4.20	0	0	0	39.60	3.80	0.30	54.20
	Wangshi-Nanguanling	18.90	15.20	6.40	3.20	0.50	1.00	65.62	23.90	3.20	137.92
	Subtotal	45.70	30.10	30.00	36.20	3.20	4.40	124.42	29.40	5.20	308.62
Temporary	Shaling-Shendong	162.30	121.40	103.70	283.00	20.00	24.30	11.40	0	200	926.10
	Shendong-Xujia	151.00	89.20	101.60	121.20	5.10	5.70	44.80	0	800	1,318.60
	Xujia-Wangshi	90.20	76.30	111.50	0	0	0	279.90	0	2,000	2,557.9
	Wangshi-Nanguanling	420.00	280.00	219.00	73.00	13.60	20.00	386.90	0	2,713.02	4,125.52
	Subtotal	823.50	566.90	535.80	477.20	38.70	50.00	723.00	0	5,713.02	8,928.12
Total		869.20	597.00	565.80	513.40	41.90	54.40	847.42	29.40	5,718.22	9,236.74

Table 3.5 Substations: Permanent land acquisition including land type (for land and affected crops value calculation)

Substation	Location	farmland area (corn) (mu)	Orchard land area (mu)	Total Land acquisition (mu)	Affected households	Affected persons
Shaling	Shenyang City	0.00	0.00	0.00	0	0
Shendong	Shenjang City	156.15	0.00	156.15	15	57
Xujia	Benxi City	9.90	0.00	9.90	8	26
Wangshi	Haicheng City	11.85	0.00	11.85	6	20
Nanguanling	Dalian City	52.35	30.00	82.35	24	76
Yanshui	Dalian City	0.00	0.00	0.00	0	0
TOTAL		230.25	30.00	260.25	53	179

Note: Temporary land acquisition and house relocation are not needed for substation .

Table 3.6 Substations (Land Acquisition Impacts in on Village Estates)

Substation	Village	households	population	Farmland area (<i>mu</i>)	Area per household (<i>mu</i> /household)	Area acquired (<i>mu</i>)	Area per capita (<i>mu</i>)	land loss ratio
Shendong								
	Yaogou village	240	734	3000	12.50	104	3.95	3.50%
	Hulu village	100	328	1375	13.75	30	4.1	2.70%
	Shangma village	277	860	1675	6.05	22.15	1.92	1.30%
TOTAL						156.15		
Nanguanling								
	Houguan village	504	1600	2400	4.76	52.35	1.47	2.20%
	Yaojia village	612	2000	1879	3.07	30	0.92	1.60%
TOTAL						82.35		
Xiujia								
	Lijiabao village	300	950	1234	4.11	9.9	1.29	0.80%
TOTAL						9.9		
Wangshi								
	Jinjia village	183	539	1130	6.17	2.2	2.09	0.19%
	Xiangwu village	400	1200	1900	4.75	9.65	1.58	0.51%
TOTAL						11.85		
Yanshui								
						0.00		0.00%
						0.00		0.00%
TOTAL						0.00		
Shaling								
	Lanshengtie village	320	1400	3100	9.69	0.00	2.21	0.00%
	Tuanjie village	400	1200	1900	4.75	0.00	1.58	0.00%
TOTAL						0.00		

CHAPTER 4

SOCIO-ECONOMIC PROFILE OF AFFECTED PERSONS

To assess project impacts on the APs, a socio-economic survey was conducted by the NEPDI between November 25 and December 4, 2000. The sample was randomly drawn by selecting one in every three households, representing approximately 38% of the total households from 12 communities in the Project affected areas.

4.1 Demographic Characteristics of the Respondents

All respondents are male. The average age of respondents is 54.5, with the youngest being 34 and the oldest 87. As for marital status, 37 (97.4%) are married, one (2.6%) widowed.

The respondents literacy rate is at 50.0%. Seventeen (44.7%) finished primary school, one (2.6%) secondary school and one (2.6%) college. The detailed education backgrounds of the respondents are presented in **Table 4.1**.

Table 4.1 Education Levels of Respondents

	Number of Respondents	% of Respondents
None	19	50
Primary school	17	44.7
Secondary school	1	2.6
College and above	1	2.6
Total	38	100

4.2 Size of Interviewed Households

The total number of affected persons in the 38 surveyed households is 169. The number of persons in each household ranged from two to ten, with the average being 4.45. Detailed results from the survey are presented in **Table 4.2**.

Table 4.2 Size of Households

	No. of Persons in Household	Frequency	Percentage
	2	2	5.3%
	3	11	28.9%
	4	13	34.2%
	5	6	15.8%
	7	1	2.6%
	8	3	7.9%
	9	1	2.6%
	10	1	2.6%
	Total	38	100.0%
Mean	4.45		
Minimum	2		
Maximum	10		
Sum	169		

4.3 Length of Residence in Present Community

According to survey results, 18 (47.4%) the respondents have lived in the present community for generations, 13 (34.2%) for 31-50 years, 4 (10.5%) for 21-30 years, 2 (5.3%) for 11-20 years, and only 1 (2.6%) for less than 5 years. The detailed results are presented in **Table 4.3**. They indicate that most residents have lived in their present communities for a considerably long time and have strong roots there.

Table 4.3 Length of Residence in Present Settlement

	Number of Cases	% of Cases
5 years and under	1	2.6%
11-20 years	2	7.9%
21-30 years	4	10.5%
31-50 years	13	34.2%
Generations	18	47.4%
Total	38	100%

4.4 Occupation and Household Income

Respondents belong to six occupational categories. Farmers are the largest group at 26 (68.4%). They are followed by retirees 4, (10.5%); self-employed, 3 (7.9%); enterprise workers, 2 (5.3%); jobless, 2 (5.3%); and local officials/teachers, 1 (2.6%).

The average annual net family income stood at RMB 17,403. The lowest was RMB 3,000 and the highest RMB 104,800. On a per-capita basis, the average net income was RMB 3,864, with the lowest being RMB 860 and the highest RMB 20,960. There are two households with a total population of 10 persons that are under the Bank-recommended international poverty line of RMB 962 (US\$1/day, purchasing power adjusted). Both are farmer households. They belong to the majority Han Chinese.

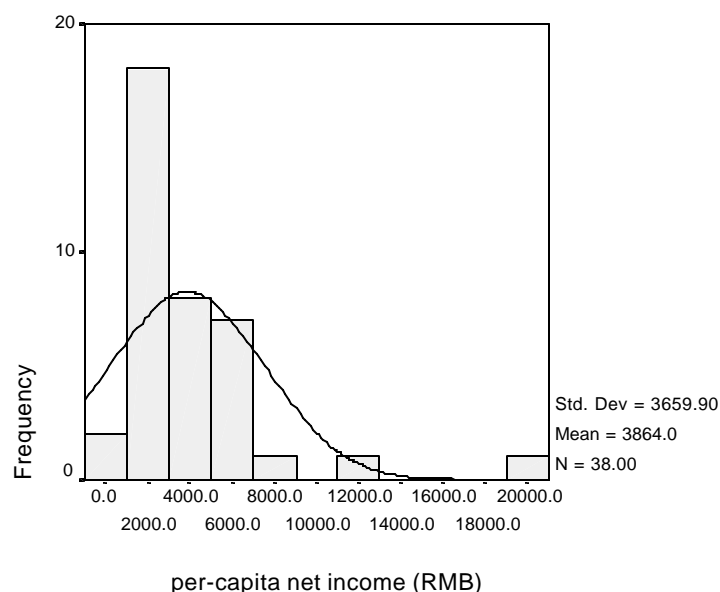


Figure 4.1 Distribution of Per-Capita Net Income Among APs

4.5 Loss of Property and Assets

Included in **Table 4.4** are the reported losses of property and assets by the 38 surveyed households. The average loss of housing area per household was reported to be 102 square meters. The average loss of farmland was approximately 7.7 *mu* or 0.51 hectares per household. Other major property and assets for the surveyed households as a whole included: 7 wells, 0 graves, 1 fruit trees, 1 regular tree, 0 square meters of business workshop, 20 square meters of barn, and 32 square meters of animal shelter.

Table 4.4 Property Losses for the Surveyed Households

	Housing area (m ²)	Area of farmland (mu)	No. of wells	Area of animal shelter (m ²)	No. of graves	Area of barn (m ²)	Area of workshop (m ²)	No. of fruit trees	No. of regular trees
No of Cases	25	8	7	11	0	1	0	1	1
Sum	2,622	61.6	7	32	0	20	0	1	1
Mean	102	7.7	1	2.91	0	20	0	1	1
Minimum	50	3.0	1	1	0	20	0	1	1
Maximum	200	17.0	1	32	0	20	0	1	1

4.6 Minority Households and Vulnerable Groups

Of the 38 surveyed households, one is reported to be a Korean family and the remaining 37 or 97.4% belong to the Han Chinese. The Korean family is a farmer household, with a population of four, net family income of RMB 7,000 (ranking the 11th lowest), and per-capita net income of RMB 1,750 (ranking the 9th lowest). Although its per-capita income is below the average at RMB 3,864 for the surveyed population as a whole, it is above the international poverty line of RMB 962.

For the purpose of this study, the most vulnerable groups can be classified into four general categories:

- households headed by women without a spouse;

- households solely composed of one elderly;
- households solely composed of two or more elderly (above the age of 60);
- households composed of the elderly without a male adult

All of the four categories, only the third category can be found in the surveyed households. That is, there are 2 households that are composed of solely two elderly persons. Their net household income was RMB 5,800/year and RMB 6,000/year, respectively, translating into a per-capita net income of RMB 2,900/year and RMB 3,000/year, which are slightly higher than the median of RMB 2,600.

Of the 38 households, two or 10 persons are poor with a per-capita net income less than RMB 962. One household has 5 persons and its per-capita net income is RMB 860. The other household has 5 persons and its per-capita net income is RMB 880.

4.7 Preferred Options for Compensation and Resettlement

The respondents were asked about their preferences for destination of resettlement, compensation for house, compensation for farmland, and compensation for loss of business. The responses are summarized in **Table 4.5**. As can be seen from the table, those households who wished to resettle in a government-sponsored settlement accounted for 42.1%; those who preferred to resettle in the same village stood at 28.9%; and 4 or 10.5% have not yet made up their minds.

As for the loss of houses, 57.9% of the households preferred to be compensated in the form of cash, and 26.3% house of same size, while 15.8% were undecided. As for loss of farmland, 71.1% wanted cash, 7.9% farmland of same size and quality, 7.9% job for family member, and 13.2% undecided. Over half (55.3%) of the business owners preferred cash compensation, and 36.8% undecided.

Table 4.5 Preferred Options for Compensation and Resettlement

	Preference	Cases	%
Destination for Resettlement	Same village	11	28.9%
	New settlement established by government	16	42.1%
	Not yet any idea	7	18.4%
	Other	4	10.5%
Compensation for House	Cash	22	57.9%
	House of same size	10	26.3%
	Don't know/Not applicable	6	15.8%
Compensation for Farmland	Cash	27	71.1%
	Farmland of same size and quality	3	7.9%
	Job for family member	3	7.9%
	Don't know/Not applicable	5	13.2%
Compensation for Loss of Business	Cash	21	55.3%
	A job	3	7.9%
	Don't know/Not applicable	14	36.8%

4.8 Willingness to Be Retrained

Many affected persons expressed their willingness to be retrained for alternative employment opportunities, should such opportunities exist (**Table 4.6**). In fact, 86.8% of those surveyed responded positively, while 13.2% who were undecided but may change their mind if attractive employment opportunities would be provided.

Table 4.6 Willingness of APs to Be Trained for Alternative Employment

	Number of Responses	% of Responses
Yes	33	86.8%
No	0	0.0%
Don't know	5	13.2%
Total	38	100.0%

4.9 Information about Project and Property Acquisition

Included in **Table 4.7** are the results of social survey concerning the APs' knowledge about the Project and property acquisition.

It can be seen from the Table that there were still 13.2% of the affected persons who learned of the Project only for less than six months; and that almost all affected persons learned of the Project from Project authorities/surveyors and through words of mouth from neighbors/relatives/friends.

The survey results also show that over 18.4% of the respondents first heard of the acquisition of their property for no longer than six months. Again, the primary source of information remained the Project authorities/surveyors at 78.9% and neighbors/relatives/friends at 21.1%.

The results point to the need for a more aggressive and more effective information program. The findings also indicate the potential for using the mass media to reach out to the affected communities and the general public alike about the Project and about associated property acquisition.

Table 4.7 Date and Source of Information about Project and Property Acquisition

About the Project	Date of 1 st Info.	< 1/2 yr	~ 1 yr	~ 2 yrs	~ 3 yrs	~ 4 yrs	>5 yrs
	% of Responses	13.2%	5.3%	78.9%	2.6%	0.0%	0.0%
	Source of Info.	Newspaper.	TV	Radio	Meetings	N/R/F	PA/S
	% of Responses	0.0%	0.0%	2.6%	0.0%	21.1%	76.3%
About Property Acquisition	Date of 1 st Info.	< 1/2 yr	~ 1 yr	~ 2 yrs	~ 3 yrs	~ 4 yrs	>5 yrs
	% of Responses	18.4%	5.3%	76.3%	7.9%	0.0%	0.0%
	Source of Info.	Newspaper.	TV	Radio	Meetings	N/R/F	PA/S
	% of Responses	0.0%	0.0%	0.0%	0.0%	21.1%	78.9%

(1) N/R/F = neighbors, relatives or friends

(2) PA/S = project authorities/surveyors

(3) Number of cases = 38

4.10 Perceptions and Attitudes

Respondents were largely positive about the prospect of receiving fair compensation for their losses. In fact, 84.2% believed that they would get fair compensation, only 2.6% believed otherwise, while 13.2% were unsure. Slightly over one-fifth (21.1%) of the respondents believed that the relevant authorities would help them to resettle, compared to 60.5% who did not. When asked if their family would benefit from the Project, 63.2% of the respondents said “yes”, 2.6% “no”, while 34.2% were unsure.

The survey also found overwhelming support for Project as only 2.6% of respondents did not approve of the Project, 2.6% were indifferent, and 5.3% were unsure; 89.5% indicated approval. The detailed results of the survey are summarized in **Table 4.8**

Table 4.8 APs’ Perceptions and Attitudes towards Project

Question	Response			
Will your family benefit from Project?	Yes	No	Don’t know	
	63.2%	2.6%	34.2%	
Will you get fair compensation for your losses?	Yes	No	Don’t know	
	84.2%	2.6%	13.2%	
Will authorities help you, aside from fair compensation?	Yes	No	Don’t know	
	21.1%	60.5%	18.4%	
Approve of Project?	Yes	No	Indifferent	Don’t know
	89.5%	2.6%	2.6%	5.3%

Note: Number of cases = 38.

CHAPTER 5

RESETTLEMENT AND INCOME RESTORATION PLAN

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

Most households to be affected by the land acquisition and resettlement are farmers. Some are workers' households. The purpose of this chapter is to identify and assess possible options available for the income restoration program.

5.1 Resettlement Choices of APs

In the sample socio-economic survey, respondents clearly indicated their resettlement preferences. Of the 38 surveyed households to be resettled, 44.7% said that they are willing to move to "new resettlement site" and 26.3% expressed their intent to resettle "within the same village". The detailed results are presented in **Table 5.1**.

Table 5.1 Resettlement Choices of APs

Resettlement Preference	No. of Households	% of the Households
Within the same village	10	26.3
New settlement site	17	44.7
Not idea yet	8	21.1
Others	3	7.9
Total	38	100

In the early stages of the resettlement process, the EA will identify all possible sites, and provide the APs with the information needed to make a choice. In doing so, it is expected that APs' needs and expectation will be met to the greatest extent possible.

In accordance with the results of the field survey and consultations with APs, community leaders, the local governments by the NEPDI, the following options have been identified to resettle the affected households.

a) Resettlement within the Same Village/Township

Where the houses affected by the project are sparse and distributed over long stretches of the transmission lines corridor the resettlement strategy chosen will be to construct houses in isolated plots as close as possible to the original location of the houses. In these cases the APs will receive "land for land " compensation in form of a residential plot corresponding in quality and location to the plot lost and cash compensation at replacement rates for the house and buildings lost. The LAR implementing agencies in association with local governments will provide full cash compensation and allocation of homesteads to the AP prior to the demolition of the existing structures. In addition, the

EA will also provide APs with construction materials at preferential prices to offset their losses. On-site relocation is perhaps the preferred approach as it does not normally affect existing socio-economic settings and social organisation. This has been evidenced in many resettlement programs world-wide. This option will allow APs to maintain and access their traditional network and kinship ties in post-resettlement period.

b) New Resettlement Sites

In locations where the affected households are concentrated in numbers sufficient to justify this option, new collective resettlement sites will be identified and developed for the APs by EA and LAR implementing agencies in association with local governments. Full compensation at replacement value of houses and necessary support will be provided to the APs for them to construct new houses and rehabilitate their livelihoods.

c) New Apartments

In case of the APs living in apartment buildings compensation will be provided in cash at the commercial value of apartments equivalent to those lost. The APs will then independently purchase a replacement apartment in the vicinity of their previous residences.

5.2 Livelihood Rehabilitation Plan

Considering that the land under the transmission line corridor will not be appropriated permanently and that the number of people needing relocation is small and scattered along a long corridor, the impacts on the local communities are expected to be minor, in comparison to such types of projects such as hydroelectric developments. Nevertheless, the EA has put together a livelihood rehabilitation plan to ensure that the affected persons will benefit from the Project, or at least, not suffer any losses.

It is stipulated in the PRC Land Administration Law of 1998 that all levels of local governments shall support the affected rural collective economic enterprises and individual farmers to establish and operate new enterprises. To this effect, the local governments will make use of the compensation for acquired land to expand employment opportunities in the affected communities, along with a host of other measures such as increased agricultural production, employment of APs in Project activities, social assistance to the most vulnerable groups, and improvements in basic education and basic health and community infrastructure.

5.3 Land-Based Resettlement and Agricultural Extension

For those who need land-based resettlement, if their land holding will be reduced as a result of the Project, the local governments will adjust the allocation of land to the APs through land re-allocation within the village. In addition, the local governments will design and undertake programs to intensify and diversify farm operations for the APs in order to raise income per unit of land. Idle land will be brought into production through land development and irrigation. Experiences from resettlement projects in China and other countries show that land-based resettlement can restore incomes more effectively after a relatively short period of transition.

According to consultations with local government agencies, the introduction of new crops and new farming techniques and technologies will be promoted to farmers in the affected communities. The departments of agriculture and science & technology will be mobilized to carry out this task. Specific measures being considered include expansion of irrigation, use of efficient irrigation technologies, high-value crops such as sorghum and vegetables (including greenhouses), use of plastic films, more efficient application of fertilizers, and so on. Agricultural technicians and cadres will be dispatched to the affected villages and farmer households to provide workshops and hands-on training.

5.4 Special Provisions for Severely Affected APs

Severely affected APs (APs losing more than 10% of their land and APs forced to relocation) will be given priority in the distribution of project employment opportunities. They will also receive a special training allowance to be used to cover transport, food and lodging expenses afforded by the APs to participate in training programs organized at training county and township training centers.

5.4.1 Training Allowance

Each severely affected household will receive two training allowance quotas one for a male household member and another for a female household member. Each allowance quota will correspond to RMB 200 covering transport and food/lodging expenses for 10 days. Training allowances will be directly disbursed to the affected families.

5.4.2 Training and training Fees

The severely affected APs will be given access to a wide range of training opportunities offered by the training centers in County and township centers. Training programs are offered quarterly and include the following subjects:

- 1 Technology on stockraising in countryside.
- 2 Economy crops planting in courtyard
- 3 technology on planting fruit and vegetable in greenhouse during the winter.
- 4 training program to women on sewing skills
- 5 prevention and cure measures on pest of greenhouse plants
- 6 skills on mechanical repairing for farm use.(automobile, tractor, autobike)
- 7 skills on knitting for women
- 8 electric technical principle
- 9 cuisine skills
- 10 product marketing
- 11 machinery repairing
- 12 food sanitation and food services

For each severely affected AP the project will earmark RMB 100 to cover training fees. This payment will be directly disbursed to the training institution.

5.4.3 Employment of Locals in the Project Activities

The construction of the transmission line and substations will directly create about 6,145 person-years of employment opportunities. Such opportunities will arise from such activities as land levelling, foundation excavation, concrete work, steel erection, running cables and so on. Although the employment associated with some of the Project activities may be temporary in nature, they represent a short-term income source for local communities. Farmers welcome the construction-related job opportunities. Based

on the previous practices, such kind of employment opportunities will help raise the living standards of the affected persons and restore their livelihood.

Based on discussions with the Executing Agency (EA), preferences will be given to the APs and host communities, when recruiting Project personnel and construction workers. A registry will be created for the affected households whereby labour is available and there is an interest to work on the Project. The registry will contain the qualification profiles of the potential workers, and then will be used to match the labour demands as they come along. In cases where the profile of a person in the labour registry is below the required qualifications but deemed “train-able”, the EA will provide the necessary training to upgrade his/her skills.

5.5 Employment of APs in Local Enterprises or TVEs

On the basis of consultations with local governments, most of the land compensation funds and the relocation allowances will be injected into the expansion and creation of local enterprises or township and village enterprises (TVEs). While the growth of local industries will benefit the affected communities as a whole, special attention will be paid to the employment of the APs, particularly those who lose all or high proportions of their land holdings or businesses, if they so choose. The local governments will also consider financial incentives in the form of tax reductions and subsidies to those enterprises who wish to participate in the employment promotion program for the APs.

The results of the resettlement survey indicated that the vast majority of APs are willing to be trained for alternative employment opportunities. In fact, 86.8% of the surveyed APs expressed their willingness to receive retraining. Besides, the 13.2% who were undecided may change their mind if attractive employment opportunities would be made available. This represents a real opportunity to help the APs and the hosts to re-establish their income and livelihood. The EA and other resettlement agencies will design and implement targeted training programs, through a training fund, for those who are willing to be trained for re-employment.

5.6 Social Assistance Fund

In order to ensure that the standards of living for the most vulnerable group are fully restored after resettlement, the EA and local governments will establish a Social Assistance Fund (SAF), from the EA. In the case of this Project, the most vulnerable group is defined to include those who: (a) have a per-capita income less than the international standard of US\$1/day (or RMB 962/year in Chinese currency); (b) are headed by women without a spouse; (c) are composed of one elderly (above the age of 60); (d) are solely composed of two or more elderly; or (e) are composed of the elderly without a male adult.

According to the results of the socio-economic survey, approximately 10% of the households in the Project area belong to the most vulnerable group. The 1,004 households affected by permanent land acquisition for the transmission line will each lose about 4 square meters of land, and therefore the impact on their income is expected to be minor. So no social assistance will be needed for them. Those who need social assistance will include only the relocation households numbered at 95, translating into 10 vulnerable households. It is proposed that the Fund will have an initial investment of

RMB 60,000, with an average of RMB 6,000 for each most vulnerable household. The disbursement will be based on as needed basis. It is proposed that the Fund will be established and administered by the civil affairs departments of the county governments.

5.7 Gender Issues in Resettlement

In the affected areas, women play a very active role in the economic development activities as well as household works. In particular, most of women in the rural areas are left behind as more men move to urban areas for jobs. Apart from family responsibilities, women are playing an active role in the agricultural and forestry production process, both on farm and non-agricultural activities. Based on the survey of APs, the participation rate for women is 44.7% in animal tending and cultivation, 39.5% in sowing and harvesting, 15% in transplanting, and 10.5% in family businesses, which in turn generate a big portion of their family total income in the Project affected areas. If considering the “unpaid” household work, it is fairly to say that compared to men, women provide more labour. Women will need special attention and support to maintain their sources of livelihood and traditional production pattern.

EA, implementing agencies and local governments will pay particular attention to the role and needs of women and women-headed households and will identify appropriate programs (for example, training and employment opportunities provided by the Project) to ensure that women are equally benefited by the Project. The program for women will include a series of measures. First, the county/local governments will employ women staff during resettlement operations to work with and assist women in resettlement activities, particularly income restoration and poverty reduction plans. Second, women will receive particular consideration in the recruitment of the personal in expanded or newly established local small enterprises. Third, special financial incentives (e.g., tax breaks, low-interest loans and subsidies) will be instituted for new micro enterprises by women from the affected households

A women employment and enterprise development fund at the amount of RMB 600,000 will be set up for the affected households, to finance the last two initiatives. For each woman hired from the affected households under the women employment and enterprise development program, the recruiting enterprise will be given a lump sum grant of RMB 3,000. A micro enterprise that is started by a woman from an affected household can get a micro credit for up to RMB 5,000. The women’s employment and enterprise development program will be administered by the Provincial Women’s Federation.

CHAPTER 6 PUBLIC INFORMATION, CONSULTATION AND PARTICIPATION

6.1 Public Information and Disclosure

6.1.1 Resettlement Policy Brochure

Based on the resettlement policy and the entitlement matrix, LEPC has prepared and published a brochure in standard Chinese for distribution to all APs so that they are aware of: i) the applicable policies and regulations; ii) entitlements; and iii) programs available to restore their income and standards of living in post-resettlement period. This will also enhance transparency in the resettlement operation. The brochure contains information on the basic elements of the Project, scheduling of activities, geographic and physical scope of Project impact, major highlights of the PRC Land Administration Law of 1998 (especially the rights and responsibilities of both the Project proponent and the APs), compensation standards and entitlements, grievance procedures, the income restoration program and the public participation/consultation program.

The brochure was distributed between May 31 and June 2, 2001 to all APs. Copies were made available to county and township governments and village committees in the Project area. The EA then commissioned a series of community meetings and household visits between June 3 and 7 to respond to questions and solicit comments and suggestions about the LARP.

The consultations re-confirmed the support of the APs and other community members to the Project. In fact, 95.3% of the relocation households and 100% of non-affected household supported the Project, whereas 4.7% of the relocation households did not care and none was opposed. The APs were satisfied with compensation entitlements and standards, but expressed the hope that these would be adhered to and payments would be made to them as early as possible so that they would have adequate and timely resources to re-gain their standards of living. Some relocation households inquired about the compensation process, and were assured that no relocation would take place without their consent and before signing the agreement between the LEPC and the relocation household, and that all compensation for the house and auxiliary buildings would be given directly to the household per se.

The APs were explained that there would be multiple channels (including LEPC, city/county governments and village committees) and multiple means (e.g., personal visits, letters, and phone calls) for appeals and grievances. The consulted also expressed satisfaction with the income restoration initiatives and some of them indicated their intent to participate.

6.1.2 Disclosure of the LARP

This LARP will be translated in standard Chinese and will be distributed among all villages affected by the project and will be available to anyone wishing to consult the document. Copies of the LARP in standard Chinese will be also available at implementing agencies offices while copies in English will be available at ADB.

6.2 The Public Consultation Process

The public consultation process for the Project began in 1998 with a series of surveys by NEPDI. The recent socio-economic surveys conducted by NEPDI showed that 89.5% of the local population support the Project and the rest do not know; 63.2% of them think that they can benefit from the Project and 36.8% do not know; and 78.9% of the local populations were aware

of the Project two years ago, 5.3% one year ago, 13.2% within half a year. As the time of the survey, there were still 7.9% of the APs who were not aware of the Project. The affected population learned that they will be relocated through the Project officials and surveyors (73.7%), village/township meetings (2.6%), neighbours/relatives/friends (10.5%) and other sources (5.3%). About 7.9% of them do not know that they will be moved.

Through discussion with village committees and household interviews, the attitudes and opinions of APs for the Project are summarised as follows:

- requesting fair compensation
- requesting provision of compensation based on the relevant laws and regulations
- minimizing land acquisition as much as possible
- ensuring adequate land allocation and livelihood restoration

Public consultation is also a focus of the ADB PPTA feasibility study, particularly through the following activities:

- socio-economic surveys of affected households by NEPDI between November 25 and December 4, 2000
- informal interviews with village leader and affected persons by the PPTA consultants
- meetings with various government and semi-government officials between October 13, 2000 and up to date.

A summary of the key consultations is shown in **Table 6.1**. Comments and suggestions from the consultations have been incorporated into the LARP.

6.2.1 Plan for Public Participation and Consultation

Extensive discussion will be held at various levels, from the local municipal governments, township governments, village committees, to APs on the LARP and LAR implementation. Particular attention will be paid to compensation, land re-allocation and income restoration and livelihood rehabilitation. The public participation and consultation plan is presented in **Table 6.2**.

TABLE 6.1 PUBLIC PARTICIPATION/CONSULTATINOS DURING PPTA

AGENCIES	PURPOSE(S)	DATE	MAIN ISSUES DISCUSSED
FICHTN, SPEC, XU, LEPC, NEPDI, LPTTC	Request of Project information and field visit arrangement	Oct. 13, 2000	<ul style="list-style-type: none"> • Request of project related information and documents, including EIA & LARP reports • Arrangement for field visit to substations and along power transmission line, including land acquisition and resettlement areas and poverty counties
FICHTN, SPEC XU, LEPC, NEPDI, LPTTC	Requests of Project information and meeting arrangements	Oct. 15, 2000	<ul style="list-style-type: none"> • Identification of project beneficiary area • Requirements and scope of work by ADB for land acquisition and resettlement • Social impacts assessment • Scope of poverty impact assessment • Request of organisations/agencies to be consulted and meeting arrangements for poverty and social impact assessment and resettlement
FICHTN, SPEC LEPC, NEPDI	Site visit to Shaling substation and along power transmission line	Oct. 17, 2000	<ul style="list-style-type: none"> • Land acquisition and resettlement • Identification of impacts
FICHTN, SPEC LEPCI, NEPDI	Site visit to Xujia & Wangshi substations and along the line from Anshan to Yingkou	Oct. 18, 2000	<ul style="list-style-type: none"> • Land acquisition and resettlement • Identification of impacts
FICHTN, SPEC LEPC, NEPDI	Site visit to Nanguanling substation & along the line from Yingkou to Dalian	Oct. 19, 2000	<ul style="list-style-type: none"> • Land acquisition and resettlement • Identification of impacts • Consultation with APs

AGENCIES	PURPOSE(S)	DATE	MAIN ISSUES DISCUSSED
ZCPAO, ZCCAB ZCWF, ZCPC ZCLB, ZCPSB FICHTN, SPEC LEPC	Poverty, gender, minority and power supply issues	Oct. 20, 2000	<ul style="list-style-type: none"> • Number of people living under poverty line • Government policies and programs on poverty alleviation in Zhuanghe County • Socio-economic profile of the area • Gender issues in the power supply sector and impacts on them • Minority population, distribution, status and government policies • Needs and constraints in power supplies
LEPC, FICHTN SPEC	Determination of beneficiary areas of the Project	Oct. 23, 2000	<ul style="list-style-type: none"> • Identification of power shortage areas • Definition of beneficiary area of the project for impact assessment
LPAO, FICHTN SPEC	Poverty situation, government policies & programs on poverty reduction in Liaoning Province	Oct. 24, 2000	<ul style="list-style-type: none"> • Number of people living under poverty line • Areas classified as national and provincial poverty counties • Major causes of poverty • Government policies and programs on poverty reduction • Success and lessons learned from previous poverty alleviation projects
CNPGC, NEPDI FICHTN, SPEC	Land acquisition and resettlement	Oct. 24, 2000	<ul style="list-style-type: none"> • ADB land acquisition and resettlement policies and guidelines • Work need to be done for land acquisition and resettlement • Inventory survey • Socio-economic survey • Main issues/components for LARP report
LEPC FICHTN SPEC	Power supply, needs, constraints and tariff structures in Liaoning Province	Oct. 24, 2000	<ul style="list-style-type: none"> • Quantity of power supply and consumption to different users • Existing needs and constraints in power supplies • Electricity tariffs for different users • Affordability to the poor

AGENCIES	PURPOSE(S)	DATE	MAIN ISSUES DISCUSSED
LEPC, FICHTN SEPC, LAB LFB, LMPAC LETC, LSB LHB, LSIS LPC	General socio-economic information of Liaoning, including poverty, gender, minority, health and energy	Nov. 1, 2000	<ul style="list-style-type: none"> • Definition of provincial poverty line and poverty areas & no. of people living under poverty line • Major causes of poverty • Provincial government policies and programs on poverty alleviation • Socio-economic profile of the province • Gender issues in the power supply sector and impacts on them • Minority population, distribution, status and government policies • Pattern of energy usage pattern and consumption • Needs and constraints in power supplies • Fuel wood consumption in the Province • Health status and water- and air-related health problems
LEPC, FICHTN SEPC, KCAB, KTEB, KLB, KPC, KMPAC, KSB, KWF, KAB, KHB, KPRO	General socio-economic information of Kangping, including poverty, gender, minority, health, energy and rural electrification issues	Nov. 2, 2000	<ul style="list-style-type: none"> • Quantity of power supply and consumption to different users • Existing needs and constraints in power supplies • Electricity tariffs for different users • Affordability to the poor • Definition of poverty line & poverty areas & no. of people living under poverty line • Major causes of poverty • Poverty alleviation programs • Success and lessons learned of poverty alleviation programs • Gender issues in the power supply sector and impacts on them • Minority population, distribution, status and implementation of government policies • Pattern of energy usage and consumption • Health status and water- and air-related problems

AGENCIES	PURPOSE(S)	DATE	MAIN ISSUES DISCUSSED
LEPC, SEPC, DPC, DAC, MAC, DLB, DHB, DAB, DCAB, DWF, DESB, DRESB	General socio-economic information of Dalian, including poverty, gender, minority, health, energy and rural electrification issues	Nov. 7, 2000	<ul style="list-style-type: none"> • Quantity of power supply and consumption to different users • Existing needs and constraints in power supplies • Electricity tariffs for different users • Definition of poverty line & poverty areas & no. of people living under poverty line • Major causes of poverty • Poverty alleviation programs • Gender issues in the power supply sector and impacts on them • Minority population, distribution, status and implementation of government policies • Pattern of energy usage and consumption • Health status and water- and air-related problems • Rural grid rehabilitation program
FICHTN, LEPC, NEPDI, LPTTC	Progress of poverty and resettlement work	Nov. 13, 2000	<ul style="list-style-type: none"> • Progress of land acquisition and resettlement • AP's survey questionnaire • Selection of two additional poverty counties • Public participation in the Project • Rural grid rehabilitation program • Request of data and information

AGENCIES	PURPOSE(S)	DATE	MAIN ISSUES DISCUSSED
FICHTN, LEPC	LEPC's human resources and gender equity	Nov. 16, 2000	<ul style="list-style-type: none"> • Organisational structure • Gender situation in LEPC • Women's needs in power sector
LEPC, FICHTN NEPDI	Land acquisition and resettlement	Jan. 10, 2001	<ul style="list-style-type: none"> • Affected land and houses • Eligibility for compensation • LAR laws and regulations • Compensation standards

FICHTN – FICHTNER GmbH & Co. KG, Germany
 KAB – Kangping Agriculture Bureau
 KCAB – Kangping Civil Affairs Bureau
 KHB – Kangping Health Bureau
 KLB – Kangping Labour Bureau
 KMPAC – Kangping Minority People's Affairs Commission
 KPC – Kangping Planning Commission
 KPRO – Kangping Poverty Reduction Office
 KSB – Kangping Statistics Bureau
 KTEB – Kangping Township Enterprises Bureau
 KWF – Kangping Women's Federation
 LAB – Liaoning Agriculture Bureau
 LEPC – Liaoning Electric Power Co., Ltd.
 LETC – Liaoning Economy & Trade Commission
 LSIS – Liaoning Sanitation and Immunisation Stations
 LFB – Liaoning Forest Bureau

LHB – Liaoning Health Bureau
 LMPC – Liaoning Minority People's Affairs Commission
 LPC – Liaoning Planning Commission
 LPAO – Liaoning Poverty Alleviation Office
 LPTTC – Liaoning Power Transmission & Transformation cc
 LSB – Liaoning Statistics Bureau
 NEPDI – Northeast Electric Power Design Institute
 NPGC – China Northeast Power Group Co.
 SPEC – State Power Economic Research Centre
 XU – Xiamen University
 ZCCAB – Zhuanghe County Civil Affairs Bureau
 ZCLB – Zhuanghe County Labour Bureau
 ZCPAO – Zhuanghe County Poverty Alleviation Office
 ZCPC – Zhuanghe County Planning Commission
 ZCPSB – Zhuanghe County Power Supply Bureau
 ZACWF – Zhuanghe County Women's Federation

Table 6.2 Public Participation Plan

Purpose of Event	Form of Event	Timing	Implementing Agencies	Target Participants	Remarks
1. Provide briefings to APs on Project & LAR. Solicit comments from APs.	Public meetings	Completion of PPTA (May - June 2001)	EA, MPSCs, township governments, village committees	All APs	<ul style="list-style-type: none"> meetings to be held in each village
2. Present final LARP to APs	Public & community meetings and focus groups	Draft final report and Implementation (May - Oct 2001)	EA, MPSCs, township governments, village committees	All APs	<ul style="list-style-type: none"> distribution of the draft LARP to APs discuss concerns & gaps relating to LARP undertake discussions with various focus groups to elicit comments & suggestions
3. Inform beneficiaries of project progress, final design, and timing	Community meetings and focus groups	Loan approval (Sept 2001)	EA	Stakeholders, beneficiaries, and APs	<ul style="list-style-type: none"> meetings to be held with beneficiary population, and with APs
4. Conduct final inventory and census surveys	Household interviews; site investigations	Implementation (Aug - Sept 2001)	EA, MPSCs, township governments, village committees	All APs	<ul style="list-style-type: none"> inventory of all assets and land holdings collect additional socio-economic data
5. Advise APs of entitlements and dates of disbursement	Public meetings	Implementation (Oct 2001 – Oct 2003)	EA, MPSCs, township governments, village committees and RCG	All APs	<ul style="list-style-type: none"> household meetings to outline entitlements
6. Monitoring of APs, beneficiaries and health impacts.	Household interviews	Post resettlement (Feb 2002 – Oct 2005)	EA, MPSCs, township governments, RCG and independent external monitor.	Random samples	<ul style="list-style-type: none"> identify need for additional support, particularly for vulnerable and disadvantaged group provide recommendations and update LARP monitoring plan

Purpose of Event	Form of Event	Timing	Implementing Agencies	Target Participants	Remarks
					<ul style="list-style-type: none"> • identify health improvements • assess project beneficiaries ability to pay tariff and satisfaction with electric supply

CHAPTER 7 INSTITUTIONAL FRAMEWORK

A major issue in land acquisition and resettlement implementation and management is the appropriate institutional framework for both the executing agency and field levels. It is important to ensure timely establishment and effective functioning of appropriate organisations mandated to plan and implement land acquisition, compensation, relocation, income restoration and livelihood programs.

An institutional framework has been developed for this Project so that the successful implementation of the LARP of the Project can be accomplished. The executing agency and other implementing partners and their respective responsibilities are summarised in **Table 7.1** and an organizational structure for LAR is presented in **Figure 7.1**, which are located at the end of this chapter.

7.1 Executing Agency

LEPC as the executing agency (EA) has the ultimate and overall responsibility for the planning and implementation of all activities relating to the land acquisition, compensation and resettlement under the Project. The EA has considerable experience in many previous projects involving population relocation. The existing resettlement capacity resides in the construction department, with two or three responsible officers. However, these officers have not been formally trained.

It is recommended that two to three additional resettlement officers will be recruited to work in the “Engineering Project Office” of LEPC, who will be responsible for implementing and co-ordinating all land acquisition and resettlement-related activities. It is recommended by the Consultant that the resettlement officers include at least one female.

The primary responsibilities of the EA will include the following:

- Discuss, with the design institute (NEPDI), possible ways to minimise land acquisition and resettlement by making appropriate design and alignment modifications.
- Entrust NEPDI to conduct detailed census surveys, in association with respective municipal power supply companies, township governments and village committees.
- Apply for licenses for land use and dwelling dismantling.
- Budget, allocate and disburse LAR payments to the respective municipal power supply companies.
- Co-ordinate the implementation of LAR activities and maintain regular contact with the respective LAR implementing agencies.
- Formulate special measures for the income and livelihood rehabilitation of APs.
- Conduct the internal monitoring of LARP implementation and appoint an agency (NEPDI) for external monitoring of LAR activities.
- Review monitoring reports and initiate remedial actions, when necessary.

7.2 Implementing Agencies

Each municipal power supply company (MPSC) in the respective Project area will be assigned specific responsibilities for the implementation of the LAR. Within each of the MPSC, a Project

Resettlement Office (PRO) will be set up with two to three resettlement officers. It is recommended by the Consultant that the resettlement officers should include at least one female.

Each MPSC will have the following primary responsibilities:

- Conduct detailed census survey in collaboration with village committees.
- Negotiate compensation amounts with the EA.
- Sign LAR and compensation agreements with the EA for the LAR compensation.
- Negotiate compensation amounts and sign LAR and compensation agreements with the township governments for land and house plot compensation, and relocation allowance.
- Negotiate compensation amounts and sign LAR and compensation agreements with the APs for houses and transfer and transportation allowances.
- Negotiate compensation amounts and sign LAR and compensation agreements with the affected school
- Provide income restoration and livelihood rehabilitation programs to APs.
- Provide arrangements with labour centres and enterprises for job seekers.
- Provide necessary assistance to APs during the resettlement process.
- Resolution of grievances related to all activities concerning land acquisition, compensation and resettlement operation.
- Decide if some additional measures, not described in the LARP, need to be taken in order to achieve the objectives of resettlement given in the LARP. Review whether all categories of impacts are being adequately compensated for and all categories of affected persons can at least restore their standards of living after resettlement.
- Conduct internal monitoring of LARP implementation.
- Prepare internal monitoring reports and initiate necessary remedial actions, when necessary.

7.3 Township Governments

- Assign new residential land and reassign collective agricultural land to APs.
- Planning for land development to ensure adequate replacement land for APs.
- Planning and implementation of income-generating and poverty reduction programs.
- Implement income restoration and livelihood rehabilitation programs to APs.
- Assist with arrangements with labour centres and enterprises for job seekers.
- Provide necessary assistance to APs during the resettlement process.
- Assist with the internal monitoring of LARP implementation.
- Assist with the Project monitoring.

7.4 LAR Leading Group

A leading group (LG) will be formed, consisting of the representatives from the EA and respective municipal power supply companies. The group will provide policy advice, coordination and supervision on LAR of the Project.

The primary responsibility of the LG will be to review the progress of LAR implementation and problems, if any, identified through monitoring, make decisions regarding actions to solve the problems and designate agencies to carry out these actions. It will also assist the resettlement offices in the following areas:

- Review and approve the resettlement work plan, including activities, budget and schedule.
- Review and approve monitoring and evaluation reports.
- Review grievance cases, if any, and proposed actions by the implementing agencies.

7.5 Resettlement Coordination Group

It is recommended by the Consultant that a Resettlement Coordination Group (RCG) be formed for the LAR of the Project. The group should be responsible for the coordination and monitoring of LAR activities. It should include both male and female members of APs, representative from host communities, township and village leaders, and government officials from land administration bureau, poverty reduction office, construction unit, environmental bureau, forestry bureau, agricultural bureau and NGO for the purpose of full representation.

Meetings of the RCG will be held every two (2) months starting at least 6 months before project implementation and continuing until two (2) year after project completion. The RCG will be convened by LEPC. The General Manager of LEPC will be the Chairman of the RCG.

The primary responsibility of the RCG will be to review the progress of LAR implementation and problems, if any, identified through monitoring, make decisions regarding actions to solve the problems and designate agencies to carry out these actions. It will also assist the resettlement offices in the following areas:

- Resolution of grievance related to all activities concerning land acquisition, compensation and resettlement operation.
- Planning for land development to ensure adequate replacement land for APs.
- Planning and implementation of income-generating and poverty reduction program.
- Developing community participation.
- Involving vulnerable groups in the planning and implementation of resettlement.
- Decide if some additional measures, not described in the LARP, need to be taken in order to achieve the objectives of resettlement given in the LARP. Review whether all categories of impacts are being adequately compensated for and all categories of affected persons can at least restore their standards of living after resettlement.

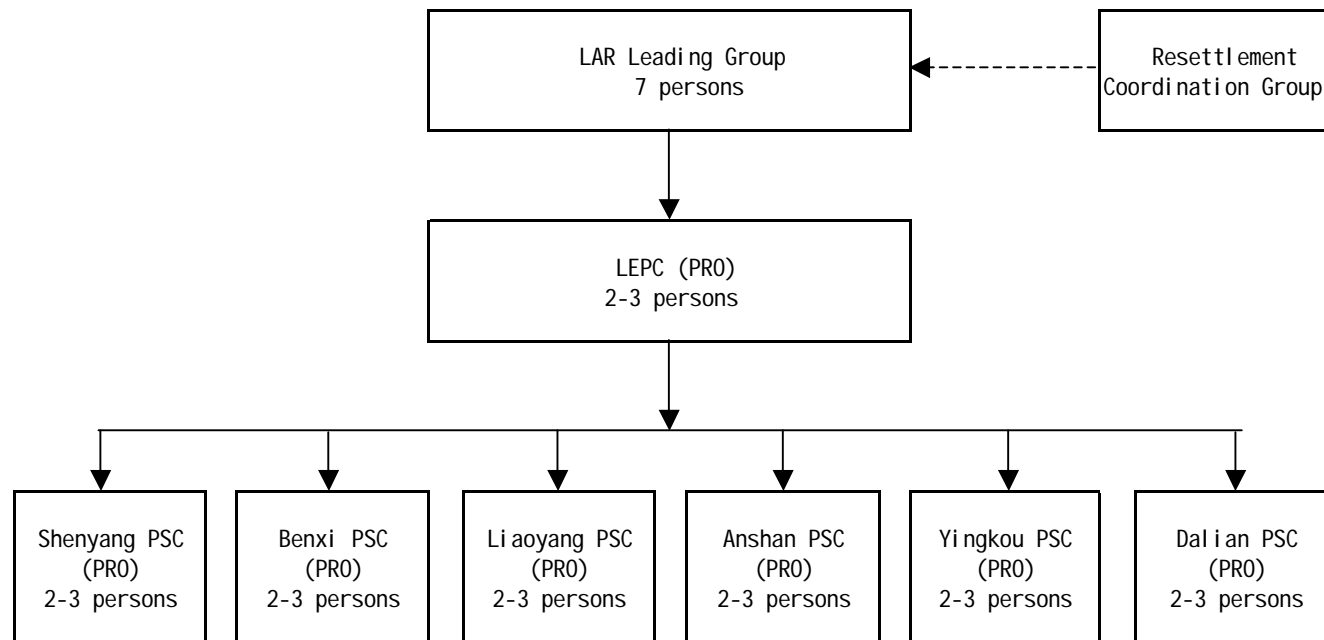
7.6 Training of Resettlement Staff

It is important that the resettlement staff be adequately trained in land acquisition and resettlement. The training program should be two weeks in duration and include such contents as principles, methodologies and consultation techniques. Simulation exercises should also be incorporated. During implementation, the resettlement office will regularly interact with the various local governments and other implementing agencies, identify problems early and bring them to the attention of the Leading Group and Resettlement Coordination Group.

One of the major responsibilities of the resettlement office staff is to conduct internal monitoring of the LAR program. The details regarding this function are given in the section of internal

monitoring in **Chapter 10**. The staff of the resettlement office will be provided with special training in project monitoring before the initiation of field activities related to land acquisition and resettlement.

Figure 7: Organizational Structure for LAR



Note: PSC means power supply company
PRO means Project Resettlement Office

Table 7.1 Implementing Agencies and Respective Responsibilities

Activity	Purpose	Period	Responsible Authority	Implementation
LAR approval to proceed	Confirmation of need and available funding	Prior to detailed survey	LPC, LLAB	LPC, LLAB, MLACBs, CLABs
Information and notification to APs and host communities	Notification to project affected villages, affected households, host communities and respective responsible agencies	Prior to detailed survey	MLABs, CLABs	EA, MPSCs, TGs, VCs
Physical survey of affected land, structures, and improvements	Detailed survey of affected land and stake out and to achieve agreement on areas for compensation	Detailed survey, implementation	EA, MLABs, CLABs	EA, NEPDI, MPSCs, TGs, VCs
Loss assessment	Assess value of land, houses, building, auxiliaries, loss of crops, trees, productive assets	Detailed survey, Implementation	EA, MLABs, CLABs	EA, MLABs, CLABs
Compensation negotiation	To agree amount of compensation payable	Post detailed survey, implementation	EA, MLABs, CLABs	EA, MLABs, CLABs
TGs agreements	To define land requirement, amount of compensation, terms for payment	Post detailed survey, implementation	EA, MPCs, TGs	EA, TGs, MPCs, VCs
Household agreements	To define buildings, etc. to be demolished, compensation amount, terms for payment	Post survey, implementation	EA, MPSCs, TGs	EA, MPSCs, TGs, VCs
Assignment of new residential land	Replacement land for demolished housing	Post survey, implementation	TGs	TGs, VCs
Reassignment of cultivated land	Adjustment of collective fields	Post survey	TGs	TGs, VCs
Payment of compensation	Cash payment	Prior to construction	EA, TGs, MPSCs	EA, TGs, MPSCs
Re-employment of displaced labour	To offset project livelihood impacts	Construction operation	EA, TGS, MPSCs, CUs	EA, TGs, MPSCs, CUs
Social monitoring	Monitoring for social or livelihood inequities, complaints and grievances	Construction operation	EA, TGs, MPSCs, CUs, LG	EA, TGs, MPSCs, CUs

CLABs – County Land Administration Bureaus

CPECs – County Planning and Economy Bureaus

CU - Construction Units

EA – Executing Agency

LG – Leading Group

LLAB – Liaoning Land Administration Bureau

MLABs - Municipal Land Administration Bureaus

MPECs – Municipal Planning and Economy Bureaus

TGs – Township Governments

VCs – Village Committees

CHAPTER 8 GRIEVANCE PROCEDURES

The entire land acquisition and resettlement (LAR) program will be carried out with the participation of and in consultation with the affected people, so as to minimise the occurrence of major grievances. Meanwhile, in order to ensure that the affected people have avenues for redressing their grievances related to any aspect of land acquisition and resettlement, detailed procedures have been established for the Project. The grievance procedures can be as follows:

- i) AP appeal to the village;
- ii) If the village cannot solve the issue it is taken to any of the following:
 - Liaoning Electric Power Co., Ltd. (LEPC)
 - respective municipal power supply company
 - township government
 - respective county Land Administration Bureau (LAB)
- iii) Reply made by the above agencies on the appeal within 15 days;
- iv) If AP is not satisfied with response or if the complaint is of a serious nature, then the appeal is taken to the municipal Land Administration Bureau;
- v) Reply to be made by municipal LAB on the appeal within 30 days;
- vi) If the AP is not satisfied with the response then they have the legal right to submit the appeal to the court.

The grievance lodged by an affected person can relate to any aspect of the land acquisition and resettlement program, including the compensation rates being offered for their losses.

All fees and administrative expenses connected to the grievances lodged by APs will be waived. In case grievances are escalated to the court level the APs will have the right to be provided with free legal advice.

CHAPTER 9 LAR COSTS AND BUDGET

9.1 Costs and Budget

The costs to be incurred on land acquisition and resettlement are included in the overall budget of the Project. The total cost of land acquisition and resettlement is estimated to be **RMB 36.409** million at May 2001 prices, of which 60% or RMB 21.85 million will be used for the first year, 30% or 10.92 million will be used for the second year and 5% or 1.82 million for each of the third and fourth year, respectively. The summary cost estimates for various categories of land acquisition and resettlement for the construction of the Project are given in **Table 9.1**. The detailed cost estimates are presented in **Table 9.2**.

During the implementation of LARP, LEPC will include the annual requirement of funds in the annual investment plan of the Project.

9.2 Flow of Funds

LEPC will be responsible for the financing of land acquisition and resettlement costs under the Project. In accordance with the compensation policies and rates given in this LARP, LEPC will sign compensation agreements with respective municipal power supply companies, which in turn will sign compensation agreement with APs, township governments, forest bureaus, businesses/enterprises, school and public infrastructure agencies (if there is any) in their respective administrative jurisdiction. LEPC will be responsible to budget, allocate and disburse LAR payments to the respective municipal power supply companies, which in turn will disburse the payment to respective APs, township government, forest bureau, businesses/enterprises, school and public infrastructure agency.

According to the institutional arrangements, the LAR implementing agencies (respective municipal power supply companies) will pay the following land acquisition and resettlement funds to:

- affected households for the compensation of affected houses, productive assets (such as trees and crops), and various allowances;
- township governments for : a) the losses of cultivated and non-cultivated farmland, forest land, economic land and homestead permanently affected; b) the losses of cultivated and non-cultivated farmland, forest land, economic land and homestead temporarily affected; and c) affected community assets (if there is any from the final inventory survey).
- forest bureau who will disburse compensation to forest stations for: a) the losses of forest land owned by forest stations; and b) affected persons who live within the affected forest stations for houses, productive assets and various allowances.
- private businesses/enterprises, school and public utility companies for the impacts on public infrastructure.

The disbursement of land acquisition and resettlement funds will be audited by an external and independent auditor.

9.3 Administrative Costs

The respective organizations responsible for implementation of LAR agreements will be paid

administrative expenses at the rate of 2% of the total amount of compensation payable in their respective jurisdiction. No other level of government will be paid any administrative expenses.

9.4 Inflation Allowance

The cost estimates in the LAR are based on May 2001 prices. Annual adjustment in the cost estimates will be made based on the inflation rate for the past year. This adjustment will be made in the month of April every year. The rates of compensation payable to the affected persons, businesses/enterprises, school, village committees and forest stations will accordingly be adjusted annually, based on the actual inflation during the year. The inflation allowance and the need to adjust compensation rates annually will be stated in the resettlement compensation agreements with the various agencies. The overall project budget includes an allowance for price contingencies (including inflation) for LAR activities at the rate of 4% for the duration of the Project.

9.5 Contingencies

The cost estimates for LARP implementation include provision of contingencies, both price (discussed above) and physical. Physical contingencies have been included to provide for any local changes in design or alignment and for any unforeseen circumstances during LARP implementation. The rate of physical contingencies budgeted for is 10% of the total cost of land acquisition and resettlement.

LEPC is responsible for provision of adequate funds to carry out the implementation of the LARP. Cost over-runs, if any, in the case of LARP implementations will be incurred by LEPC. The General Manager of LEPC is authorized to grant any non-budgeted expenditure with regard to the implementation of land acquisition and resettlement related activities.

Table 9.1 Summary of Land Acquisition and Resettlement Costs

Type of LAR	Costs Items	Amount (RMB)
Permanent LAR	Dryland	6,646,275
	Paddy Land	790,608
	Economic Land	105,456
	Wood Land	1,080,454
	Orchard Land	1,853,280
	Subtotal	10,478,073
Temporary LAR	Dryland	4,095,356
	Paddy Land	1,202,544
	Economic Land	155,490
	Wood Land	6,290,100
	Subtotal	11,743,490
Houses and Auxiliaries	Brick Houses	2,296,000
	Apartment Building	1,000,000
	Barns	536,400
	Fences	427,500
	Private Toilets	17,800
	Wells	11,500
	Animal Pens	42,700
	Subtotal	4,331,900
	Transfer and Transportation Allowances	105,750
	Subtotal	105,750
Other Costs	Survey, Design & Research	666,480
	Administration	533,184
	Training	133,296
	Monitoring and Evaluation	533,184
	Subtotal	1,866,145
Contingency	Physical	2,852,536
	Inflation	1,141,014
	Subtotal	3,993,550
Land Taxes	Land Administration Fee	1,382,248
	Land Tax	2,328,025
	Subtotal	3,710,273
Social Assistance Fund		180,000
TOTAL		36,409,181

Table 9.2 COST ESTIMATE OF LAND ACQUISITION AND RESETTLEMENT

Compensation	Losses	Type	Quantity	Unit	Unit Price	Subtotal	
1. Permanent Land Acquisition Costs (including both transmission line and sub-station impacts)							
Land & Relocation Allowance	Farmland	Dryland	corn	275.95	mo	20,350	5,615,583
			soybean	30.10	mo	10,920	32,8692
			sorghum	30.00	mo	23,400	702,000
		Paddy land		36.20	mo	21,840	790,608
		Economic land	tobacco	3.20	mo	20,800	66,560
			peanut	4.40	mo	8,840	38,896
	Non-Farmland	Wood land		124.42	mo	8,700	1,082,454
		Orchard land		59.40	mo	31,200	1,853,280
		Marsh land		5.20	mo	0	0
	Subtotal			568.87			10,478,073
2. Temporary Land Acquisition Costs							
	Farmland	Dryland	corn	823.5	mo	2,349	1,934,402
			soybean	566.90	mo	1,260	714,294
			sorghum	535.80	mo	2,700	1,446,660
		Paddy land		477.2	mo	2,520	1,202,544
		Economic land	tobacco	38.7	mo	2,700	104,490
			peanut	50	mo	1,020	51,000
	Non-Farmland	Wood land		723.00	mo	8,700	6,290,100
		Marsh land		5,713.02	mo	0	0
	Subtotal			8,928.12			11,743,490

3. Resettlement Costs						
Houses & Auxiliaries	Houses & Building	Brick houses	6,560	m ²	350	2,296,000
		Apartment building	1,000	m ²	1,000	1,000,000
		Barns	2,980	m ²	180	536,400
	Subtotal		10,540			3,832,400
	Auxiliaries	Fences	4,750	M	90	427,500
		Private toilets	89	No	200	17,800
		Wells	23	No	500	11,500
		Animal pens	61	No	700	42,700
	Subtotal					499,500
Transfer & Transportation	Transfer & transportation		95	Household	300	28,500
	Lost working time for households		95	Household	250	23,750
	Transfer loss		95	Household	150	14,250
	Medical costs		95	Household	200	19,000
	Temporary housing		95	Household	150	14,250
	Relocation of small shops		3	Household	2,000	6,000
	Subtotal					105,750
4. Other Costs						
	Survey & design		2% of Section 1-3			533,184
	Research		0.5% of Section 1-3			133,296
	Administration		2% of Section 1-3			533,184
	Training		0.5% of Section 1-3			133,296
	Monitoring and Evaluation		2% of Section 1-3			533,184
	Subtotal					1,866,145
5. Contingency						
	Physical		10% of Section 1-4			2,852,536
	Inflation		4% of Section 1-4			1,141,014
	Subtotal					3,993,550
6. Taxes						

Permanent LA	Land administration fee	Dryland	corn	275.95	mo	800	220,760	
			soybean	30.1	mo	400	12,040	
			sorghum	30	mo	900	27,000	
		Paddy land		36.2	mo	900	32,580	
		Economic land	tobacco	3.2	mo	800	2,560	
			peanut	4.4	mo	400	1760	
		Wood land		124.42	mo	400	49768	
		Orchard land		59.4	mo	1,200	71280	
		Marsh land		5.2	mo	0	0	
		Subtotal						417,748
		Land tax ^a			439.25	mo	5,300	2,328,025
Subtotal						2,328,025		
Temporary LA	Land administration fee ^b		3,215	mo	300	964,500		
	Subtotal					964,500		
7. Social Assistance Fund								
	Special training allowance for severely affected families					120,000		
	Social assistance fund for vulnerable groups					60,000		
	Subtotal					180,000		
TOTAL						36,409,181		

Note: ^a. Wood land and marsh land are not subject to land tax

^b. Exclude marsh land.

CHAPTER 10 MONITORING AND EVALUATION

According to requirements stipulated in the “Regulations on Construction Supervision” promulgated by the Ministry of Construction of PRC 1995, a construction project shall be properly supervised. It is a requirement of the ADB that loan projects that result in resettlement be properly monitored and evaluated. In order to ensure that the implementation of the land acquisition and resettlement plan in accordance with the requirements, monitoring of implementation, both “internal” and “external”, will be carried out during and after the implementation of the Project.

For internal monitoring, the resettlement offices of the EA, in partnership with the respective municipal power supply companies, will take full responsibility for conducting regular internal monitoring of the LAR program.

For external monitoring and evaluation, NEPDI will be engaged by LEPC to undertake resettlement supervision, monitoring and evaluation. This will be for a period of 4 years from commencement of the Project till two years after relocation

10.1 Monitoring, Evaluation Objectives and Requirements

The objectives of monitoring and evaluation are to assess if the LARP is implemented on schedule and within budget and if the goals and principles of the LARP are achieved. Monitoring and evaluation will include, but not be limited to: (1) monitoring the progress and effectiveness of LARP implementation; and (2) evaluation of income restoration and post-resettlement conditions of the APs and host communities (if necessary).

Specifically, monitoring and evaluation will focus on the following aspects of the APs’ situation and resettlement process:

- Economic situation prior to and after land acquisition/use;
- Timely disbursement of funds;
- Environmental conditions;
- Social adaptability after resettlement;
- Special items related to the vulnerable groups;
- Condition and quality of land of temporary land acquisition when it is returned to the original land users;
- Measures taken by the municipal power supply companies and township governments;
- Living conditions and economic status following resettlement.

Monitoring and evaluation includes: establishment of socio-economic background data of the APs prior to actual land acquisition or physical relocation and regular monitoring of their situation for a period of 2 years after land acquisition and relocation. In addition, qualitative and quantitative evaluation will be made on the sustainability of at least the pre-project standard of living of the APs.

10.2 Internal Monitoring

- During implementation of the LARP, internal monitoring will be undertaken every six (6)

weeks. Post resettlement monitoring will be undertaken internally every three (3) months. The main monitoring indicators will include:

- Payment of compensation fees in the various categories on a timely basis;
- Allotment of housing in accordance with the options expressed by the APs. The number of people who have been allocated housing on a given date will be recorded. Distance of new houses from the original locations will be documented. In order to compare the standards of new housing with that of the old, photographs of all affected houses and structures will be taken and kept in the project files of each affected household;
- Planning and implementation of income and livelihood restoration measures by the respective municipal power supply company and township government;
- Restoration of business/school activities;
- Timely selection of relocation sites;
- Restoration of temporarily used land to pre-existing condition;
- Inspection of the complaints register and actions taken for resolution of conflicts;
- Assessment of progress on income restoration and maintaining pre-project standards of living.

10.3 External Monitoring

In addition to monitoring indicators given in the section on the internal monitoring above, NEPDI will be hired to undertake external monitoring every six (6) months.

a) Methodology

To verify the quantitative aspects of implementation, sample surveys of various types of impacts will be conducted based on the internal monitoring reports. The level of accuracy in progress reporting as reflected in the internal monitoring reports will be determined.

The information will be checked from three sources: 1) the municipal power supply companies; 2) the township governments; and 3) the affected persons, school and businesses.

Data and information will be gathered through:

- Questionnaires surveys.
- Interviews with affected households, school and businesses.
- Specific focus group interviews aimed at identifying the specific problems/issues related to groups such as the elderly, women, poor, persons affected due to temporary land acquisition, etc.

Data and information collected will be analysed for affected areas, resettlement sites, timing of impacts, types of impacts, levels of compensation, duration of the resettlement process, etc.

10.4 Principal Duties

The monitoring work will focus on the following two aspects: (1) the progress of disbursement and provision of entitlements to APs, and (2) comparison of pre- and post-resettlement socio-economic situation for APs and villages, and host communities (if necessary).

The following indicators will be monitored and evaluated:

- Disbursement of entitlements to APs and school/businesses: compensation, housing, cultivated farmland, and employment as specified in the LARP;
- Development of economic productivity: re-allocation of cultivated land, land restoration, job opportunities available to APs, number of APs employed or unemployed;
- Provision of alternative housing:
 - the affected persons must move into their alternative housing at least one month before the relocation;
 - for those opting for self-construction, payment of compensation and provision of housing sites should be completed at least 3 months before the relocation;
 - the compensation for construction of houses should be equivalent to the replacement cost;
 - the affected persons must receive on time their entitlements regarding moving allowance and transportation allowance;
- Level of satisfaction of APs:
 - level of satisfaction of APs with various aspects of the resettlement program;
 - the operation of the mechanisms for grievance redress will be reviewed and the speed of redress of grievances will be monitored;
- Standard of living: Throughout the implementation process, the trends in standards of living will be observed and the potential problems in the way of restoration of standards of living will be identified and reported. The external monitoring agency will carry out a comprehensive socio-economic survey after the completion of implementation to document the standards of living and the conditions of the APs after resettlement;
- Social adaptability and cohesion: impacts on children and other vulnerable groups, public participation, resettlers' attitude and reaction to post resettlement situation, number of complaints and appeal procedures, implementation of preferential policies and income restoration measures, and improvements in women's status in villages

10.5 Special Considerations

Special attention will be paid to the poor and vulnerable groups during monitoring. These include:

- The status and function of women: closely monitor any change in women's status, function and situations. At least 40% of APs surveyed will be women. The monitoring and evaluating unit will also provide recommendations and assistance to the EA in respect of women's issues;
- Care and attention to vulnerable groups: closely monitor living conditions of the elders, handicapped, and other vulnerable groups after resettlement, to ensure that no hardship is experienced;
- Monitoring and evaluating will provide information on use and sufficiency of resettlement funds. An independent auditor will audit resettlement accounts and funds. Further details of this will be provided by the resettlement office of the EA during the later stages of the project.

10.6 Contents and Distribution of Monitoring Reports

A monitoring report will include, among other things:

- conclusion of evaluation;
- major existing and potential problems;
- recommendations of mitigation or prevention measures.

The independent monitoring agency (NEPDI) will provide the EA, the Leading Group of LAR and the respective municipal power supply companies and township with status reports annually from the start of the implementation of LAR until the Project is completed.

LEPC will forward copies of the reports in English to the Bank. LEPC shall ensure that the monitoring agency includes information on the progress and status on all aspects of land acquisition and resettlement activities. LEPC will also submit a final report to the Bank, to be followed by a post-resettlement impact evaluation by the monitoring agency, which should provide further evidence whether adverse effects of the Project have been mitigated adequately, and at least pre-land acquisition income have been restored. A post-resettlement independent evaluation of the resettlement impact will be carried out within half a year of the completion of the Project.

10.7 LAR Monitors

The Project requires extensive monitoring of the LAR activities and of the resettlers for two years during project implementation and two years after the completion of the resettlement program, for a total of four years. LEPC will, in accordance with the requirement of the ADB, retain the services of the resettlement monitors. The monitors will visit the site yearly to review the progress made, the general welfare of the resettlers, help resolve any issues/problems, and support the training program. They will report the progress to LEPC and ADB. The monitors will pay special attention to programs to help those resettlers who may experience difficulties in regaining their pre-project standards of living and recommend mitigation measures.(including training of resettlement staff). In additional, ADB staff may participate in such reviews to improve relocation performance.

CHAPTER 11 IMPLEMENTATION SCHEDULE

11.1 Land Acquisition and Resettlement Activities

Based on the time schedule of the Project, a preliminary LAR schedule reflecting the linkage between resettlement/land acquisition tasks and civil works construction tasks is presented in the next page (**Figure 11.1**). The land acquisition and demolition of houses required for tower foundations and substations should be completed with the preparatory stage of the engineering construction and before the beginning of relevant civil engineering works.

Agricultural land will have to be evacuated prior to the beginning of tower foundations constructions. Since all APs will be allowed to terminate the harvest (end of September) this task will begin at the earliest on late October. By the evacuation deadline (31 of September) all new replacement plots will have to be allocated to the AP so that they can prepare for the new agricultural season in their new fields.

Houses do not need to be demolished until the beginning of stringing operations. (Scheduled for April 2003.) By the beginning of stringing operations all new houses will have to be built. This means that that residential land allocation needs to be scheduled well ahead (at least 5 months) of that deadline.

The proposed schedule is expected to ensure that all APs, prior to their physical relocation: i) will have been adequately consulted about the Project, its impacts and compensation entitlements; ii) will have received compensation entitlements in a timely manner; and iii) have been provided with means to establishing livelihood.

Table 11.1 LARP Implementation Schedule

Activities	Year 1 (2001)												Year 2 (2002)												Year 3 (2003)												Year (2004)												Year 5 (2005)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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