

**JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)  
ISLAMIC REPUBLIC OF PAKISTAN**

**Pakistan: Power Transmission Enhancement Program**

## **FINAL REPORT**

# **FAISALABAD WEST GRID STATION & ALLIED TRANSMISSION LINES LAND ACQUISITION AND RESETTLEMENT PLAN**

**Volume: 1 Main Report**

**August 14, 2016**

**(Revised as per JICA HQ Comments)**

**NATIONAL TRANSMISSION AND DESPACH COMPANY (NTDC)**

**GOVERNMENT OF PAKISTAN**

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## ABBREVIATIONS

AHs/APs	Affected Households/Affected Persons
AM	Angular Marker (Angular Tower)
DCO	District Coordination Officer
DOR	District Officer (Revenue)
EDO-R	Executive District Officer (Revenue)
EIA	Environmental Impact Assessment (Report)
EMA	External Monitoring Agency
EHV	Extra High-Tension Voltage (a division of NTDC)
ESIC	Environmental and Social Impact Cell
GM	General Manager
GRC	Grievance Redress Committee
GSC	Grid System Construction (a division of NTDC)
GSO	Grid System Operation (a division of NTDC)
IEE	Initial Environmental Assessment (Report)
IPDF	Indigenous Peoples Development Framework
IPDP	Indigenous Peoples Development Plan
JICA	Japan International Cooperation Agency
kanal	Unit of land measurement: 1 kanal = 50.54 m <sup>2</sup> (or, 1 ha = 19.786 kanals)
kV	kilo-Volt (Unit of Power)
LAA	Land Acquisition Act, 1894 (amended)
LAC	Land Acquisition Collector
LARF	Land Acquisition and Resettlement Framework
LARP	Land Acquisition and Resettlement Plan
MOWP	Ministry of Water and Power
NGO	Non-Governmental Organization
NTDC	National Transmission and Dispatch Company
PD	Project Director
PIU	Project Implementation Unit (NTDC)
PMU	Project Management Unit (NTDC)
RFS	Resettlement Field Surveys
ROW	Right-of-way
Rs.	Pakistani Rupees (Currency): Rs. 106= US\$1.00 (in this LARP)
TL	Transmission Line
TOR	Terms of Reference
WAPDA	Water and Power Development Authority

## DEFINITION OF TERMS

### Affected persons/households

<b>(APs/AHs)</b>	Means all the people affected by land acquisition, relocation, or loss of incomes and includes any person, household (referred to as project affected family or affected household [AH]), firms, or public or private institutions. APs therefore include; i) persons affected directly by the safety corridor, right-of-way, tower or pole foundations or construction work area; (ii) persons whose agricultural land or other productive assets such as trees or crops are affected; (iii) persons whose businesses are affected and who might experience loss of income due to the project impact; (iv) persons who lose work/employment as a result of project impact; and (v) people who lose access to community resources/property as a result of the project.
<b>Compensation</b>	means payment in cash or kind for an asset to be acquired or affected by a project at replacement cost at current market value.
<b>Cut-off-date</b>	means the date after which people will NOT be considered eligible for compensation i.e. they are not included in the list of APs/AHs as defined by the census. Normally, the cut-off date is the date of the detailed measurement survey. The cut of date for this project is July 25 <sup>th</sup> , 2016, when the last consultation with the grid station APs was held at proposed grid station land.
<b>Encroachers</b>	means those people who extend their occupation beyond the lands they legally own; usually not entitled to compensation but at times provided with assistance if they are vulnerable.
<b>Entitlement</b>	means the range of measures comprising cash or in-kind compensation, relocation cost, income rehabilitation assistance, transfer assistance, income/livelihood restoration which are due to AHs, depending on the type and degree nature of their losses to restore their social and economic base.
<b>Inventory of losses</b>	means the pre-appraisal inventory of assets as a preliminary record of affected or lost assets.
<b>Land acquisition</b>	means the process whereby a person is compelled by a public agency to alienate all or part of the land s/he owns or possesses, to the ownership and possession of the agency for public purposes, in return for fair compensation. The land acquisition and resettlement plan is known as a LARP.
<b>Non-titled</b>	means those who have no recognizable rights or claims to the land that they are occupying and includes people using private or state land without permission, permit or grant i.e. those people without legal title to land and/or structures occupied or used by them. JICA Guidelines explicitly states that such people cannot be denied compensation.
<b>Poor</b>	means those falling below the official national poverty line (equivalent to 2,350 calories per day) of Rs. 3750 per person per month (2014).



<b>Replacement cost</b>	method of valuing assets to replace the loss at current market value, or nearest equivalent, and the amount of cash/kind needed to replace an asset in its existing condition, without deduction of transaction costs/any material salvaged. <b>In accordance with the World Bank OP 4.12 any depreciation in replacement cost will not apply.</b>
<b>Resettlement Field Survey</b>	means the detailed inventory of losses that is completed after detailed design and marking of project boundaries on the ground. RFS includes socio-economic data on the affected households/families, and stakeholder consultations.
<b>Sharecropper</b>	means the same as tenant cultivator or tenant farmer, and is a person who cultivates land they do not own for an agreed proportion of crop or harvest.
<b>Significant impact</b>	means 200 people or more will experience major impacts, which are defined as; (i) being physically displaced from housing, or (ii) losing (10%) ten per cent or more of their productive assets (income generating).
<b>Vulnerable</b>	means any people who might suffer disproportionately or face the risk of being marginalized from the effects of resettlement and includes; (i) female-headed households with dependents; (ii) disabled household heads; (iii) poor households (within the meaning given previously); (iv) landless; (v) elderly households with no means of support; (vi) households without security of tenure; (vii) ethnic minorities; and (viii) marginal farmers (with landholdings of five acres or less).

## EXECUTIVE SUMMARY

**The Project.** NTDC has received financing from JICA Loan PAK-58 for the construction of 500kV Faisalabad West Grid station with Association 500kV & 200kV Transmission Lines. This project involves construction of 500kV Faisalabad West Grid station with Association 500kV & 200kV Transmission Lines. The project components include “1) Construction of a 500/220/132 kV Substation at Faisalabad West (Chak No 201 JB on Painsara –Bhawana Road on 49.5 acres (20.02 ha) of Land that will be fitted with two 500/220kV, 750MVA and three 220/132kV, 250MVA transformers along with allied equipment and accessories: b) Construction of 500 kV double circuit transmission line on quad bundled Drake conductor for looping in/out of existing 500 kV Muzaffargarh-Gatti S/C at 500 kV Faisalabad West (2 km); c) Construction of a 220 kV double circuit transmission line on twin bundled Rail conductor from 500 kV Faisalabad West to 220 Kv substation at T.T Singh (40 km); and d) Extension at existing 220 kV T.T Singh substation for construction of two 220 kV line bays.

**Project Alignment:** The proposed project will be implemented on ‘Turn-key’ basis including i.e. design, supply and installation. The proposed design provided by NTDC will be finalized by the contractor at the stage of implementation. The NTDC back in 2012, initiated land acquisition process and Section-4, 5 and 5A have been implemented. This Consultant is contracted by the NTDC /JICA to prepare a LARP for Grid Station as well as around 40 km long 220 KV transmission Line from existing T.T. Singh Grid Station to proposed Faisalabad West Grid Station at Chak 201 JB, Tehsil Bhawana in district Chiniot. This Abbreviated LARP will be updated, if there is a change in the final design by the Turn-Key contractor.

**Resettlement Impacts.** The broad objective of this LARP is to describe involuntary resettlement impacts, mitigation measures and compensation to the Affected Households (AHs) in accordance with the JICA’s Policy on Involuntary Resettlement and applicable national laws. The project will cause both permanent and temporary impacts i.e. involuntary land acquisition for grid station and crop, trees and infrastructure loss during tower construction and stringing.

**Construction of Transmission Line:** The construction of Transmission Line component whole will temporarily affect a total of 272 households (AHs) with a total population of 1871 affected persons (APs). The Affected population will bear a temporary loss of 283 Acres (114.5 ha) of their productive lands, in terms of crop and tree losses. Around 9% of the crop loss will be by the construction of towers and 91% for stringing activity. This is only 9.8% of the total farm holdings of the AHs. **A total of 576 trees (103 fruit trees, 473 wood trees) will have to be removed from TL corridor (336 trees) and grid station site (240).**

**Acquisition of Land for Grid Station:** The involuntary land acquisition 49.5 acres for grid station will cause permanent impact on livelihood 19 title households. Of the total land only 11.5 acres are under self-cultivation and remaining 38 acres cultivated by 21 non-title small lease holders

**The Transmission Line Corridor:** The TL corridor will temporarily impact on cropping of 233.5 acres of agriculture land for one year and will impact on 255 households. The transmission line and Grid station construction process will also impact on the residential / farm house/ commercial infrastructure. The RFS identified a total of 25 such infrastructure of which 19 are in TL corridor and 6 on the grid station site. Alternatives for some of these buildings are suggested to minimize the impacts especially a Government Primary School building and residential area of a women headed household. The other affectees will be compensated as per the entitlement matrix.

**Compensation Eligibility and Entitlement Matrix:** The objective of this Abbreviated LARP is to describe the impacts of project, compensation entitlements, and resettlement principals. This Abbreviated LARP sets out provisions for compensation of land, structures, crops, trees and livelihood restoration and vulnerability allowances under the Land Acquisition Act, 1894 and JICA’s policy/ Guidelines on involuntary resettlement (2010) and World Bank OP 4.12.

**Abbreviated LARP:** As only nineteen (19) Affected Households (AHs) (i.e Land Owners) with a total population of 110 are losing their cultivable land, for the construction of grid station, therefore, the Faisalabad West Grid Station & Allied Transmission line project is classified as category “B” required preparation of an Abbreviated LARP.

For the loss of assets and income sources, NTDC will compensate, both temporary and permanent, at the current market values of the same as per the following “Compensation and Entitlement Matrix”

**Compensation and Entitlement Matrix**

Asset	Specification	Affected People	No. Ahs	Compensation Entitlements
	Replacement Cost			<u>All replacement costs for land and structures will be applied in accordance with WB –OP</u>
Arable Land	Permanently Acquired Land	Farmer / Titleholder	19	<u>Land Compensation:</u> Land Price will be based on highest sale values, and negotiated with affected Landowners, plus 15% compulsory acquisition surcharge will be paid; <u>Tree Compensation:</u> Tree Prices at replacement value
Arable Land	Access is not restricted and existing or current land use will remain unchanged	Farmer / Titleholder	274 APs	Land will be rehabilitated/restored to former quality following completion of works. Compensation, in cash, for all damaged crops and trees will be paid
		Sharecroppers/ Leaseholder (registered or not)	25 Acres	Compensation, in cash or kind, for all damaged crops/trees as per item below
Crops	Crops affected of Landowners / Sharecroppers	All AHs, incl squatters	25	Crop compensation in cash at full market rate for one harvest (either winter or summer) by default for impacts caused by tower bases and perimeter, stringing and access
Trees	Trees affected	All AHs, incl squatters	576	Cash compensation shall reflect income replacement
Building / Infrastructure	Affected buildings	All AHs who lose their premises permanently	25	Cash compensation for loss of built-up structures at full replacement costs including both covered and open constructed area, loss of utilities and other fixed assets, free from depreciation, transaction costs and salvageable material. In case of partial impacts full cash assistance to restore remaining structure. If the remaining structure is not viable, entire structure will be compensated

**Significance of Impact.** As there is no restriction on access to, or use of, land, the impacts will be temporary. The temporary impact on crops and trees is such that AHs will not experience a loss of 10% or more of their productive assets (income generating). Thus all TL corridor affectees will experience insignificant impacts. A small group (19) of TL corridor affectees, however, if not avoided in the design, by losing their residential/commercial infrastructure will experience significant impact.

**Indigenous People Issues.** All AHs (both landowners and lease holders) are Muslim and ethnically Punjabis. There are neither tribal nor minority people amongst the AHs, and all affected land is held in private (i.e. not tribally owned or communally held land). The JICA's indigenous *Policy Principles* is not triggered, and therefore neither an IPDP nor special action is required for this project.

**Participatory Land Acquisition Process.** The program LARF was also translated into Urdu and disclosed at the project site on July 10, 2016 on according to JICA's public communications policy, and it will be uploaded to NTDC website [www.ntdc.com.pk](http://www.ntdc.com.pk) subsequently. Consultation has been undertaken through a series of meetings with local government agencies, AHs, as well as wider community group meetings of both men and women. The RFS has been a participatory process, with the head of household assisted in the identification and calculation of losses. Further community consultations will be carried out during the implementation of the LARP.

**Grievance Redress Mechanism.** There is also a process established to deal with any issues or concerns raised on any aspect of the LARP or compensation process. The verbal or written grievances of AHs will be heard by the district level Land Acquisition Coordinating Committees, which will be established to assist NTDC implement the LARP.

**Cost of Plan.** The total land acquisition and resettlement cost for Faisalabad West Grid Station and Transmission Line Project is estimated at Rs. 131.15 million (US\$ 1.237 million). The NTDC will set aside this amount of funds and utilize in complete implementation of this LARP after the construction plan has been approved. The salient features of this budget for LARP are:

- Total budget for the land acquisition for the grid station and crop and rehabilitation of infrastructure will be Rs. 131.15 million.
- Around 49.5 acres of land for grid station will cost Rs.85.38 million or 70% of the total cost.
- The NTDC will pay a total of Rs. 33.84million (30%) as compensation for the affected crops and trees and rehabilitation of residential and other infrastructure
- A contingency of 10 per cent (Rs. 11.920 million) of the subtotal of the compensation and administrative charges has been included in the cost estimate.
- Funds for compensation and implementation of the LARP will be from the Government (counterpart funds) via NTDC, budgetary requirements for economic restoration
- Itemized details are provided in the table below.

LARP Budget for FSD 500/220 kV TL & GS Project					
No.	Resettlement Activity	No.	Unit	Rs./Unit	Total Rs.
<b>A</b>	<b>Land Acquisition Cost for Grid Station</b>				
A.1	Total Land to be acquired for Faisalabad West Grid Station	49.5	-	1,500,000	74,250,000
A.2	LAA-Compulsory Acquisition Charges		15%		11,137,500
Total of A					<b>85387,500</b>
<b>B.</b>	<b>Crops and Trees Compensation for 220 kV TL:</b>				
B.1	Trees:	576	tree	-	<b>4,937,000</b>
B.1.1	Fruit Trees (Table 8.4)	103	tree	lumpsum	596,000
B.1.2	Wood Trees (table 8.5)	473	tree	Lumpsum	4,341,000
B.2	Crops :				<b>24,038,332</b>
B.2.1	Crop Compensation for Towers	25	Acres		2602062
B.2.2	Crop Compensation for TL Corridor	259	Acres		21436270
B.3	Rehabilitation of infrastructure				<b>8,464,800</b>
Total of B					<b>37,440,132</b>

Total A+B					<b>122,827,632</b>
C.	Contingency (10% of B)	0.1	<i>Lumpsum</i>		12,282,763
Total Amount (Pak. Rupees):		-	-	-	<b>135,110,395</b>
<i>Total Amount (US Dollars*):</i>		<i>1US\$=Rs.106</i>		<i>US\$</i>	<b>1274626</b>

## 1. PROJECT DISCRIPTION AND BACKGROUND

### 1.1 General

This Chapter provides a detailed view of proposed project components:

NTDC has received financing from JICA Loan PAK-58 for the construction of 500kV Faisalabad West Grid station with Association 500kV & 200kV Transmission Lines. This project involves construction of “a)” 500kV Faisalabad West Grid station with Association 500kV & 200kV Transmission Lines. The project components include:

1. Construction of a 500/220/132 kV Substation at Faisalabad West (Chak No 201 JB on Painsara –Bhawana Road on 48 acres (19.8 ha) of Land that will be fitted with two 500/220kV, 750MVA and three 220/132kV, 250MVA transformers along with allied equipment and accessories.
2. Construction of 500 kV double circuit transmission line on quad bundled Drake conductor for looping in/out of existing 500 kV Muzaffargarh-Gatti S/C at 500 kV Faisalabad West (2 km).
3. Construction of a 220 kV double circuit transmission line on twin bundled Rail conductor from 500 kV Faisalabad West to 220 Kv substation at T.T Singh (38 km).
4. Extension at existing 220 kV T.T Singh substation for construction of two 220 kV line bays.

### 1.2 Project Alignment

The proposed project will be implemented on ‘Turn-key’ basis i.e. construction by a contractor/ developer and turn-over to NTDC in a ready-to-use condition, which includes design, supply and installation. In this context, the proposed design provided by NTDC will be finalized by the contractor at the stage of implementation.

However, the NTDC has launched the land acquisition process and Section-4, 5 and 5A have been implemented. This Consultant is contracted by the NTDC /JICA to prepare a LARP for Grid Station based on the land alignment provided by NTDC and socio-economic survey and consultations held with the land owners / occupants of land and other infrastructure in the demarcated area.

### 1.3 Grid Station Area, TL Length and RoW

The Survey & Investigation (S&I) wing of NTDC has marked the route alignment of transmission line on G.T. Sheet (Annex-II). The RAP for 40 Km 220 Kv Transmission Line has prepared on the basis of this route.

NTDC required around 50 Acres (20.23 ha) of land for the construction of 500 Kv grid Station. For construction of transmission towers on private lands NTDC pay compensation for crop losses, and pay market value for the loss of infrastructure, in addition to rehabilitation cost. The piece of land identified for Grid Station is mostly used for agriculture. In addition to the

new grid station, construction of 39 km connecting transmission line will pass through agriculture fields of 5 villages in District Chiniot and 12 villages in Toba Tek Singh district.

Based on the GT Sheet marked 10 Angle Markers, there will be around 112 towers including 10 angle towers i.e. each tower will be erected at a distance of 340 m as reported by Survey & Investigation department of NTDC.

In consultation with the Survey & Investigation section of NTDC and the E&SIC (PMU), NTDC, the width of RoW for T/L considered was 30 m, i.e. 15 m on either side from the center of transmission line and 225 m<sup>2</sup> (i.e. 15m x15m) in case of tower spotting. The location of the proposed Grid Station, Layout plan of the grid station and transmission line route is attached as fig. 1.1, 1.2 and 1.3 below. The Resettlement consultant on the basis of GT sheet developed a Transmission Line Lay out plan (Annex-1) specimen 1<sup>st</sup> and last pages see fig 1.4 and 1.5.

#### **1.4 Objectives / Scope of Work:**

The objective of the project is to increase the efficiency, reliability, and quality of electricity supply in terms of the overall technical and commercial losses, the availability and the voltage profile of electricity.

The scope of work of this assignment is preparation of Land Acquisition and Resettlement Plan (LARP) report for the 500 KV grid station and allied transmission line. To accomplish this task the consultant was required to conduct field survey, public consultation, identification of affected persons (APs) and impact assessment on the APs.

The specific objective of preparation LARP was to:

- a) Develop a Land Acquisition and Resettlement Plan (LARP) to address social and resettlement impacts.
- b) Ensure that the LARP report reflects on compliance with the governing national laws & regulatory framework and JICA's guidelines.



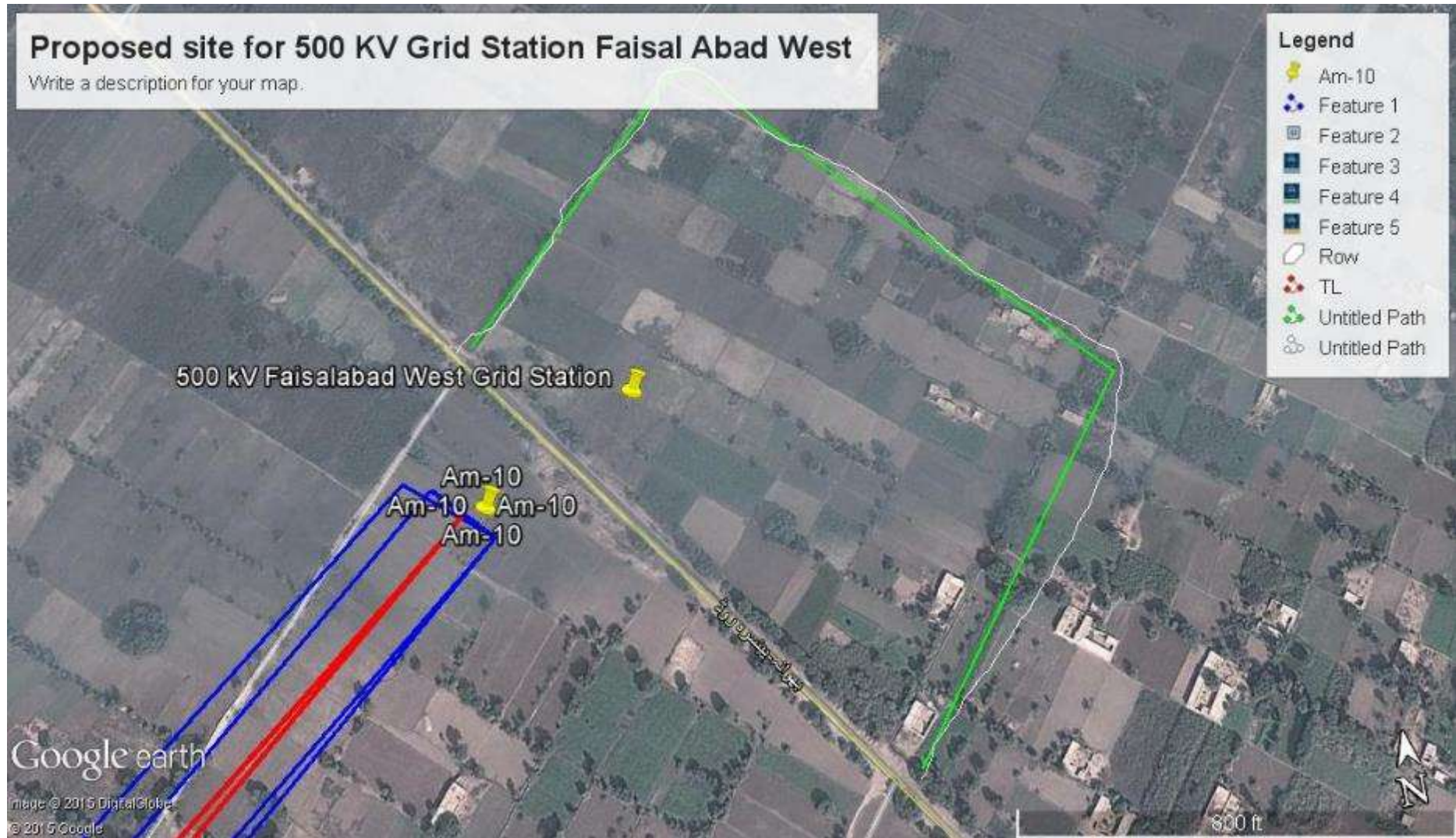


Figure 1.1 : 500 kV Faisalabad West Grid Station



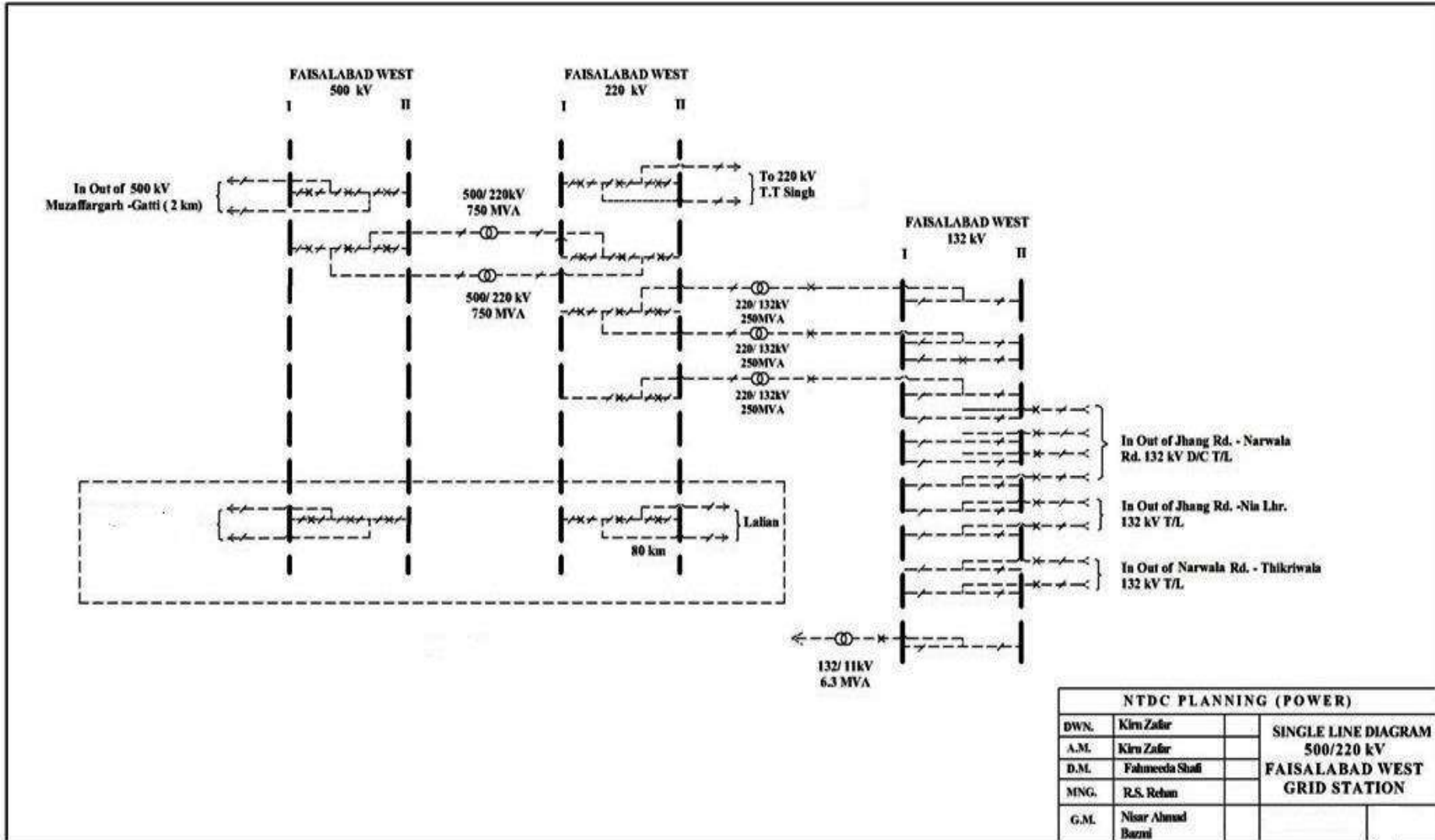


Figure 1.2: L ay out Plan of 500 kV Faisalabad West Grid Station

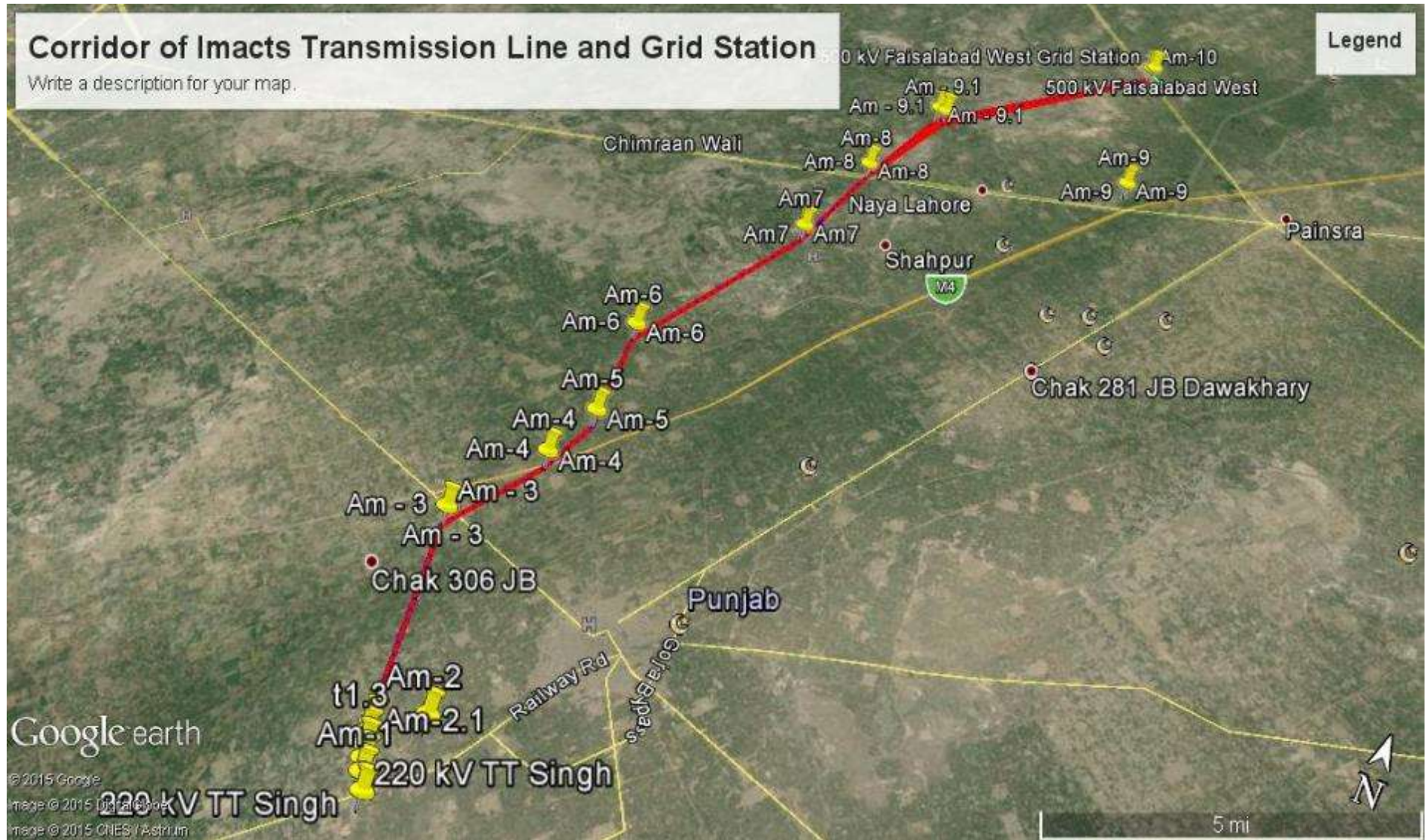


Figure 1.1.: Transmission Line Route









## **1.5 Tower Structures for Associated Transmission Line**

All the towers shall be self-supporting type, lattice steel structures, fabricated from galvanized structural steel shapes. The steel employed will be in accordance with the latest edition of the standards. All towers will be equipped with danger plates, number plates and anti-climbing devices.

## **1.6 Safety Parameters**

For EHV lines, safety considerations are of two types. One is related with the safety of the system, while others are those that are related to the public. It is for this reason that NTDC has adopted a 50 m wide (25 m either side from the centerline) corridor as the ROW for the allied 500 KV transmission line and 30 m for 220 KV Transmission line in this Project.

## **1.7 The Project Cost**

The loan has been approved by JICA. JICA will finance the design, civil works and supply of equipment. A support component has also been provided to assist the NTDC with various aspects of project preparation and implementation. Total cost of the project has been estimated at PKR 9379.505 Million, with PKR 3688.734 million as local cost while JICA will provide PRs. 5690.771 Million.

## **1.8 Project Components**

This project involves construction of 500kV Faisalabad West Grid station with Association 500kV & 200kV Transmission Lines. The project components include:

- I. A 500/220/132kV Substation Faisalabad West with two 500/220kV, 750MVA and three 220/132kV, 250MVA transformers along with allied equipment and accessories.
- II. 500 kV double circuit transmission line on quad bundled Drake conductor for looping in/out of existing 500 kV Muzaffargarh-Gatti S/C at 500 kV Faisalabad West (2 km).
- III. 220 kV double circuit transmission line on twin bundled Rail conductor from 500 kV Faisalabad West to T.T Singh (45 km).
- IV. Extension at existing 220 kV T.T Singh substation for construction of two 220 kV line bays at T.T Singh.

## **1.9 Objective /Scope of Work**

The objective of the project will be; to increase the efficiency, reliability, and quality of electricity supply in terms of the overall technical and commercial losses, the availability and the voltage profile of electricity.

The scope of work includes preparation of Land Acquisition and Resettlement Plan (LARP) report. During this study the consultant has conducted field survey, public consultation, APs identification and impact assessment.

### 1.10 Project Categorization

According to the World Bank OP 4.12 Annex-A and JICA Guidelines on Environment and Social Considerations, projects are categorized based on the following benchmarks:

- Significant impact: if > 200 people are resettled or will lose > 10% or more of their income generating assets are classified as category “A” requiring a full LARP.
- Insignificant Impact: if < 200 people will be resettled or experience a loss of <10% of income generating assets. This project is classified as category “B” required to prepare Abbreviated LARP

The Land Acquisition for the Construction of Grid Station (Faisalabad West) will Affect a total of 19 households with 110 persons and less than 200 AHs will sell their productive assets to NTDC on current market rates, therefore, the 500/220 KV Faisalabad West grid station project is classified as category B and an Abbreviated LARP has been prepared for implementation accordingly.

### 1.11 Scope of LARP Study

The specific objective of LARP is to:

- A. Develop a Land Acquisition and Resettlement Plan (LARP) to address social and resettlement impacts.
- B. The consultant will also ensure that the LARP report reflects on compliance with the governing national laws & regulatory framework and JICA’s guidelines

### 1.12 Report Format

The report on Abbreviated LARP for 500/220 Kv Faisalabad GS/TL project is structured into the following chapters.

Executive Summary

Chapter-1 Project Description

Chapter-2 Policy Framework and Entitlements

Chapter-3 Assessment of Impacts

Chapter-4 Socio-Economic Survey of Affected Population

Chapter-5 Institutional Arrangements

Chapter-6 Consultations and Disclosure

Chapter-7 Resettlement Budget and Financing

Chapter-8 Implementation Schedule

Chapter-9 Monitoring and Evaluation

Appendices

## **2. POLICY FRAMEWORK AND ENTITLEMENTS**

### **2.1 Introduction**

This Chapter describes the policy framework, compensation and rehabilitation program of the affected persons in this Abbreviated LARP and explains the principles of JICA Guidelines on Involuntary Resettlement and step-by-step process of Land Acquisition Act 1894, the primary law governing the land acquisition in Pakistan. While comparing the JICA Environmental and Social Consideration – Guidelines (2010) and Pakistani Law (LAA 1894), the preceding paragraphs indicates differences between the Pakistani Law and JICA Guidelines on Resettlement and the ways to reconcile. It summarizes the eligibility for entitlements and compensation entitlements.

### **2.2 Pakistan’s Land Acquisition Act (LAA) of 1894**

The 1894 Land Acquisition Act (LAA) with its successive amendments is the main law regulating land acquisition for public purpose. The LAA has been variously interpreted by local governments, and some province has augmented the LAA by issuing provincial legislations. The LAA requires that following an impacts assessment/valuation effort, land and crops are compensated in cash at market rate to titled landowners and registered land tenants/users, respectively. The LAA mandates that land valuation is to be based on the latest 3-5 years average registered land sale rates, though, in several recent cases the median rate over the past 1 year, or even the current rates, have been applied with an added 15% Compulsory Acquisition Surcharge as provided in the LAA.

In the LAA, only legal owners and tenants registered with the Land Revenue Department or with formal lease agreements are eligible for compensation/livelihood support. For those without title rights are however addressed under the 1986 “Punjab Jinnah Abadies for Non-proprietors in Rural Areas Act” which recognizes the squatters’ right to receive rehabilitation in form of a replacement plot. It is to be noted that this right has been sometimes extended in practice to include some form of rehabilitation in cash or in forms different from land.

In addition to the provisions of the LAA, regulations setting out the procedure for land acquisition have been provided in the ‘Punjab Land Acquisition Rules, 1983; published in the Gazette of the Punjab Extraordinary, dated February 22, 1983. These rules are applicable in the Punjab. The LAA lays down definite procedures for acquiring private land for projects and payment of compensation. The rights of people whose land is to be acquired are fully safeguarded. For entering private land or carrying out surveys and investigations, specified formalities have to be observed and notifications to be issued. Damage to any crops during survey and investigations has to be compensated. The displaced persons, if not satisfied, can go to the Court of Law to contest the compensation award of the Land Acquisition Collector (LAC).

The law deals with matters related to the acquisition of private land and other immovable assets that may exist on it when the land is required for public purpose. A listing of the Sections of the Act and their salient features is given in Table 2.1. The right to acquire land for public purposes is established when Section 4 of the LAA is triggered. The LAA specifies a

systematic approach for acquisition and compensation of land and other properties for development projects. It stipulates various sections pertaining to notifications, surveys, acquisition, compensation and apportionment awards, along with disputes resolution, penalties and exemptions. Surveys for land acquisition are to be disclosed to the displaced persons.

**Table 2. 1: Salient Features of LAA 1894 and its sections**

<b>Key Sections</b>	<b>Salient Features of the LAA (1894)</b>	<b>Dates</b>
Section 4	Publication of preliminary notification and power for conducting survey.	
Section 5	Formal notification of land needed for a public purpose.	
	Section 5 – A covering the need for enquiry	
Section 6 & 7	The Government makes a more formal declaration of intent to acquire land & the Land Collector shall direct the Land Acquisition Collector (LAC) to take order the acquisition of the land.	
Section 9 & 10	The LAC gives notice to all APs that the Government intends to take possession of the land and if they have any claims for compensation then these claims are to be made to him at an appointed time & Delegates power to the LAC to record statements of APs in the area of land to be acquired or any part thereof as co-proprietor, sub-proprietor, mortgagee, and tenant or otherwise.  The enquiry has covered both the land to be acquired and the prices for compensation	
Section 11	Enables the Collector to make enquiries into the measurements, value and claim and then to issue the final "award". The award includes the land's marked area and the valuation of compensation.	
Section 16	When the LAC has made an award under Section 11, he will then take possession and the land shall thereupon vest absolutely in the Government, free from all encumbrances.	
Section 17	Section 17 that is about acquisition of land in urgency. However section 17/4 (urgency/emergency clause) will not be applied.	N/A
Section 23	The award of compensation for the owners for acquired land is determined at its market value plus 15% in view of the compulsory nature of the acquisition for public purposes.	



	<b>Commencement of Civil Works</b>	
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## 2.3 JICA's Involuntary Resettlement: Objective and Principles

### 2.3.1 JICA's Involuntary Resettlement Objectives

1. Involuntary resettlement and loss of means of livelihood are to be avoided when feasible by exploring all viable alternatives. When, after such an examination, avoidance is proved unfeasible, effective measures to minimize impact and to compensate for losses must be agreed upon with the people who will be affected.
2. People who must be resettled involuntarily and people whose means of livelihood will be hindered or lost must be sufficiently compensated and supported by project proponents etc. in a timely manner. Prior compensation, at full replacement cost, must be provided as much as possible.
3. Host countries must make efforts to enable people affected by projects and to improve their standard of living, income opportunities, and production levels, or at least to restore these to pre-project levels. Measures to achieve this may include: providing land and monetary compensation for losses (to cover land and property losses), supporting means for an alternative sustainable livelihood, and providing the expenses necessary for the relocation and re-establishment of communities at resettlement sites.
4. Appropriate participation by affected people and their communities must be promoted in the planning, implementation, and monitoring of resettlement action plans and measures to prevent the loss of their means of livelihood.
5. In addition, appropriate and accessible grievance mechanisms must be established for the affected people and their communities.
6. For projects that will result in large-scale involuntary resettlement, resettlement action plans must be prepared and made available to the public.
7. In preparing a resettlement action plan, consultations must be held with the affected people and their communities based on sufficient information made available to them in advance. When consultations are held, explanations must be given in a form, manner, and language that are understandable to the affected people.
8. It is desirable that the resettlement action plan include elements laid out in the World Bank Safeguard Policy, OP 4.12, Annex A.

### 2.3.2 JICA's Resettlement Principles

JICA recognizes the following **seven principles** to be very important.

1. A wide range of impacts must be addressed. The types of impacts addressed by JICA cover a wide range of environmental and social issues.

2. Measures for social considerations must be implemented from an early stage to a monitoring stage. JICA applies a Strategic Environmental Assessment (SEA) when conducting Master Plan Studies etc., and encourages project proponents etc. to ensure environmental and social considerations from an early stage to a monitoring stage.
3. JICA is responsible for accountability when implementing cooperation projects. JICA ensures accountability and transparency when implementing cooperation projects.
4. JICA asks stakeholders for their participation. JICA incorporates stakeholder opinions into decision-making processes regarding environmental and social considerations by ensuring the meaningful participation of stakeholders in order to have consideration for environmental and social factors and to reach a consensus accordingly. JICA replies to stakeholders' questions. Stakeholders who participate in meetings are responsible for what they say.
5. JICA discloses information. JICA itself discloses information on environmental and social considerations in collaboration with project proponents etc., in order to ensure accountability and to promote the participation of various stakeholders.
6. JICA enhances organizational capacity. JICA makes efforts to enhance the comprehensive capacity of organizations and operations in order for project proponents etc., to have consideration for environmental and social factors, appropriately and effectively, at all times.
7. JICA makes serious attempts at promptness. JICA addresses request of acceleration for the prompt implementation of projects while undertaking environmental and social considerations

#### **2.4 Comparison of LAA and JICA's Resettlement Policy**

We acknowledge that there are two sets of procedures, in conformity with each other and more importantly there exist differences and gaps too. The key issue is if JICA's assessment procedures are followed then the requirements of the Pakistan's LAA and Punjab regulatory systems are in compliance. Conversely, if the Government of Pakistan and also the Punjab systems are followed then there are likely to be shortfalls in comparison to the JICA's requirements.

The key Principles in both the policies are

- (i) the need to screen the project early on in the planning stage,
- (ii) carry out meaningful consultation,
- (iii) at the minimum restore livelihood levels to what they were before the project, improve the livelihoods of affected vulnerable groups
- (iv) prompt compensation at full replacement cost is to be paid
- (v) provide displaced people with adequate assistance,
- (vi) Ensure that affected people who have no statutory rights to the land that they are working are eligible for resettlement assistance and compensation for the loss of non-land assets and (vii) disclose all reports.

The JICA Guidelines listed social impacts to be addresses in the social Impact assessment such as:

- Social impacts, including migration of population and involuntary resettlement;
- Local economy such as employment and livelihood;
- Utilization of land and local resources,
- Social institutions such as social capital and local decision-making institutions;
- Existing social infrastructures and services;
- Vulnerable social groups such as poor and indigenous peoples:
- Equality of benefits and losses and equality in the development process;
- Gender, children’s rights, cultural heritage and local conflicts of interest;
- Working conditions including occupational safety.

## **2.5 Remedial Measures to Reconcile Gaps between the LAA and JICA Policy**

Project specific resettlement issues have been addressed to assist non-titled persons and bridge the gap between existing practice and JICA guidelines with regards to involuntary resettlement. To reconcile the inconsistencies between the LAA (1894) and JICA Guidelines, the Social Resettlement Consultant in consultation with the ESIC-NTDC JICA has prepared this Abbreviated LARP for implementation, ensuring that compensation is provided at replacement cost for all direct and indirect losses so that no one is worse off as a result of the project.

- a. All possible efforts have been made to minimize the land acquisition and resettlement impacts i.e. (a). Maximum ROW of Transmission Line has been included and will be utilized.
- b. Specifically, following are the achievements of all possible efforts to avoid or minimize the land acquisition and resettlement impacts on the local population, fully agreed with the APs:
  - i. A series of at least 04 consultation meetings during May-July 2016 were held with the APs for Grid Station on land acquisition and Resettlement impacts and mitigation measures..
  - ii. In any case, “land for land” option cannot be applied on this project due to lack of government land nearby.
  - iii. Involuntary resettlement is an integral part of the project (for Grid Station) which this abbreviated LARP has been prepared with appropriate time-bound actions and budgets.
  - iv. All APs will be fully compensated for their lost assets, incomes and businesses, and provided with rehabilitation measures sufficient to assist them to improve or at least maintain their pre-project living standards, income levels and productive capacity.
  - v. APs have been fully informed and closely consulted on resettlement and compensation options. The Abbreviated LARP will be made available in both English and Urdu languages to the affected persons and communities. The consultative process is on-going and includes not only those affected, but also the adjacent

communities, representatives of the local governments of the areas, community leaders, Government's Departments and community-groups.

- vi. NTDC will transfer adequate budget to the Assistant Commissioner / Land Acquisition Collector for compensation to the APs.
- vii. Payment of compensation and all other assistance will be completed by prior to handing over possession of land to the contractor. Compensation will be satisfactorily completed and verified by the external monitor and a report will be submitted to ESIC-NTDC and JICA for approval and allow the contractor to takeover physical possession of the land.

**C. Cut of Date :** The date after which people will NOT be considered eligible for compensation i.e. they are not included in the list of APs/AHs as defined by the census. The detailed measurement survey was completed on July 20<sup>th</sup> and the list of all APs was shared with the AP in the final consultation meeting on July 25<sup>th</sup> at the proposed Grid Station Land . This was the effective cut off date for this project.

## 2.6 Entitlement Matrix

The objective of this LARP is to describe the impacts of project, compensation entitlements, and resettlement principals. This LARP sets out provisions for compensation of land, structures, crops, trees and livelihood restoration and vulnerability allowances under the Land Acquisition Act, 1894 and JICA Guidelines / policy on involuntary resettlement (2014).

Compensation and rehabilitation for losses and impacts will be provided in accordance with e the following matrix

Table2.1: Compensation Eligibility and Entitlements Matrix			
Asset	Application	Definition of AP	Compensation Entitlements
<b>A) Loss of Land</b>			
Permanent Loss of Agriculture Land	All AHs who lose cultivable land, regardless of impact severity	Titleholder with land records verified ownership (legal)	Cash compensation at replacement cost based on current open market rate / replacement value plus a 15% Compulsory Acquisition Surcharge (CAS) as provided in LAA 1894 and free of taxes, registration and transfer costs.
		Lease holder/tenant (registered or not)	Cash compensation equivalent to market value of one full year harvest of affected land (in addition to standard crop compensation).
		Sharecroppers (registered or not)	Cash compensation equal to market value of lost harvest that is shared with the land owner, based on the sharecropping contract (verbal or written).

		Agriculture workers	Cash compensation for lost wages up to 3-months @ official wage rate minimum salary in Punjab, Rs. 7000/month.
	Additional provisions for severe impacts (more than 10% of land loss)	Titleholder/Leaseholders / Squatters	One severe impact allowance equal to net market value of 1 full year harvest (winter and summer) of the affected land, additional to standard crop compensation.
		share-croppers (registered or not)	One severe impact allowance equal to market value of share of one full year harvest lost (additional to standard crop compensation)
Loss of Residential Land	All AHs who lose their residential land	Titleholder with land records verified ownership (legal)	Cash compensation at replacement cost based on current open market rate / replacement value <sup>4</sup> plus a 15% Compulsory Acquisition Surcharge (CAS) as provided in LAA 1894 and free of taxes, registration and transfer costs
Loss of building / structures	All AHs who lose their premises permanently	All AHs	Cash compensation for loss of built-up structures at full replacement costs including both covered and open constructed area, loss of utilities such as electricity and water connection, septic tank and other fixed assets, free from depreciation, transaction costs and salvageable material. Owners of affected structures will be allowed to take/reuse their salvageable materials for rebuilding/rehabilitation of structure. In case of partial impacts full cash assistance to restore remaining structure. If the remaining structure is not viable, entire structure will be compensated

Loss of irrigation facilities i.e. Tube wells	All AHs regardless of land ownership.	Owner or possessor of the facility regardless of land ownership	Cash compensation for re-installation of irrigation facilities @ Of replacement cost.
Loss of Crops	Crops affected	All AHs	Cash compensation at full gross market rate for one full year harvest (summer plus winter), based on average production of the crops.
		Sharecropper / tenants	Cash compensation to sharecroppers/ tenants for loss of their crops as per due share or agreement (verbal or written)
Loss of trees	Trees affected	All AHs	Cash compensation at replacement rates

		Sharecropper / tenants	Partial compensation to sharecroppers/ tenants for loss of trees as per due share or agreement (verbal or written).
Income of Employment	Permanent or temporary loss of income or employment	All AHs	<b>Worker/employees:</b> Cash compensation for lost wages for the period of business interruption (3 months) based on tax records or other reliable documentation, or if this is unavailable, compensation for lost wages for a period of 3 months based on minimum salary in Punjab RS.7000/month.
Vulnerable AH livelihood		AHs below poverty line	Provision of one additional allowance equal to 1 month minimum official salary of Punjab (Rs.7000/) Employment priority in project related jobs.
Unanticipated adverse impact	The ESIC -NTDC in consultation with the PIU will deal with any unanticipated consequence of the project during and after project implementation in the light and spirit of the principle of the entitlement matrix		

### **3. ASSESSMENT OF IMPACTS**

#### **3.1 INTRODUCTION**

##### **3.1.1 Methodology**

As a general strategy, the identification and layout of the site and a technical drawing showing Angle markers were collected NTDC. The Angle tower markers received from NTDC, along with their GPS readings. Following S&I NTDC parameters for 220 KV TL for 30 meter RoW ( 15 meter on either side from the center of transmission line) and 225 m<sup>2</sup> (i.e. 15m x15m) in case of tower spotting, the GIS specialist of the consultant mapped towers on Google map and analyzed the topographic variations around the tower locations. Re-adjustment of tower locations was carried out (a) minimize the damage/ disturbance on ground and (b) maintain an even inter-tower distance. The nearby settlements and roads around the tower locations were mapped to design a layout plan to identify the tower placement and assess the impact of towers and stringing. This was followed for two major interventions:

- Impact Assessment Survey of proposed Transmission Line and Grid Station (*Chapter-3*)
- Socio Economic Survey of sample of affected households from TL /GS. (*see Chapter -2*)

The LARP preparation Survey (LPS) team comprised of one resettlement specialists and three male and one female field surveyors, along with a GIS specialist. The five member team during a three week long intensive field visit verified the LARP AHs, held consultations with the groups of APs, conducted social and economic survey of selected communities. The LPS team held public consultations on the losses and payment procedures.

##### **3.1.2 The Mandate**

The present LARP Preparation Survey (LPS) is mandated to;

- Assess the impact of sub-project components impact by quantifying the affected lands, structures and other assets (crops, trees, etc.),
- Identify the structures that exist in the COI and assess the impact on infrastructure.
- In order to minimize the impact on existing structure suggest alternatives.
- Prepare a Land Acquisition and Resettlement Plan and on the basis of current market prices (of crops and trees and affected structures)
- Prepare an implementation budget.
- Recommend measures to avoid demolition of private structures and government buildings in consultations with the groups of AP.

##### **3.1.3 Minimization of Impacts**

The NTDC normally safeguards against and/or minimizes the likely adverse impacts on the local communities in survey, design and implementation of its power transmission projects, involving construction of sub-stations and transmission lines. Accordingly, the LARP consultant proposing slightly altering the alignment of this transmission line at a number of

places to avoid compact housing areas (villages/government structures) and minimize the likely resettlement impacts.

Table 3.1 Existing Structures in TL Corridor (220 KV Faisalabad West)			
Tower No		Identification of Infrastructure	Assessment of Impact
From	To	Construction Problem Found in TL RoW	Infrastructure
03	04	Government Primary School Chak 299 JB Under Stringing	6 Pakka Rooms, 12*14 each 3 Bath rooms 6*6 B. Wall 1
13	14	One road side katcha shop –on Bakhsh Road crossing –Chak No 304, Arshad Ali S/O Khushi Muhammad	Room 10*10 Shelter 10*5
18	19	Scattered Houses on Barren Govt Land near Chak No 304 Gojra 1. Baba Aslam 2. Akram S/O Pira	One kacha room 12*14 2 katcha rooms 12*14, 10*12
20	21	Dera Ashfaq Ahmad Chak 303 Kathore	2 pacca rooms 12*14
31	32	Pacca Factory compound and boundary wall – Haji Latif –Chak 352	B.Wall pacca 40*10 rft .
35	36	Dera Ghulam Ahmad –Chak 352	1 pacca room 12*16
38	39	Dera Rana Faqir Hussain	One katcha 14*16
46	47	Strings crossing over 6 residential buildings Chak 415 Chandarkey	6 pacca rooms 12*14 + B Wall 6 small rooms 10*12 + B Wall
64	65	Dera – Chak 345, Sajid nawaz	2 pacca rooms 12*16
69	70	Dera –cattle shed 345 Hameed	2 pacca sheds 14*16
85	86	Dera – Chak 248 Anwar Ali	3 kacha rooms + b.wall
88	89	Dera –Chiragh s/o Allah yar Chak 248	3 kacha rooms + b. wall
99	100	Dera Mapal machia	4 pacca rooms
101	102	Haleema – residential house	3 pacca rooms ,

The resettlement field assessment of the project identified a total of 17 cases where residential and farm house buildings of various material and sizes exist in the proposed TL's RoW in different reaches of the TL as shown in table 3.1 below.

As per the NTDC policy, Houses, buildings, structures will be compensated in cash at replacement cost free of depreciation, salvaged materials, and transaction cost deductions. The compensation for houses/buildings will also include the cost of lost water and electricity connections. Community structures and public utilities will be fully compensated or replaced/rehabilitated so as to satisfy their pre-project functions.

The LARP preparation team discusses these diversions with the NTDC, suggested some alternatives especially for the public service buildings and some vulnerable houses. The Team was ensured that the diversions will be considered in the design survey. The contractor will not remove the infrastructure instead additional towers will be constructed to avoid these residential areas.

## 3.2 IMPACTS OF TRANSMISSION LINE

### 3.2.1 General Description

Of the total 112 towers, 105 will be located on private productive lands. None of the towers will be located in an urban area where it could hinder housing development, and none will



have a low-bar to restrict future cultivation of the farmlands. Therefore, no land compensation will be applicable for the lands under towers, as provided in Chapter 2 above (paragraphs 27 and 28), and only crop and tree compensation will be paid to the AHs for temporary effect on their productive lands by the tower construction.

The construction of towers on agricultural land will require compensation for crops and trees lost from the area under the tower and also in a small perimeter surrounding it. The area included in this perimeter has been assessed to be 900 M<sup>2</sup> (or, 0.09 ha) for a 220 kV tower. Crop cultivation within the corridor can continue after the stringing of lines has taken place. The construction and stringing operations will be completed in one year that will impact for a loss of three crops (Wheat, Maize and fodder)<sup>1</sup>.

### 3.2.2 Affected Productive Lands

The transmission line will traverse, for the most part (96%), intensively irrigated private farmlands and some uncultivated lands (barren). No lands will be acquired permanently for the transmission lines. However, its construction and installation works will temporarily affect agricultural and horticultural crops. Table 3.2 below shows that the T/L will traverse through 296.5 acres (120 Ha) of farm lands and will temporarily affected the crops and trees falling within the 30 m wide RoW of this TL. The table also shows that the farmlands of district Toba Tek Singh will be affected most with 81% ratio for the transmission line.

Table 3.2: Temporarily Affected Area of Productive Lands				
No.	Section of TL by District	Total Land Area Traversed (Acres)	Affected Productive Land	
			Area (ha)	%age
1	Toba Tek Singh	229.0	92.7	19%
2	Chiniot	54.0	21.8	81%
3	Total	283.0	114.5	100%

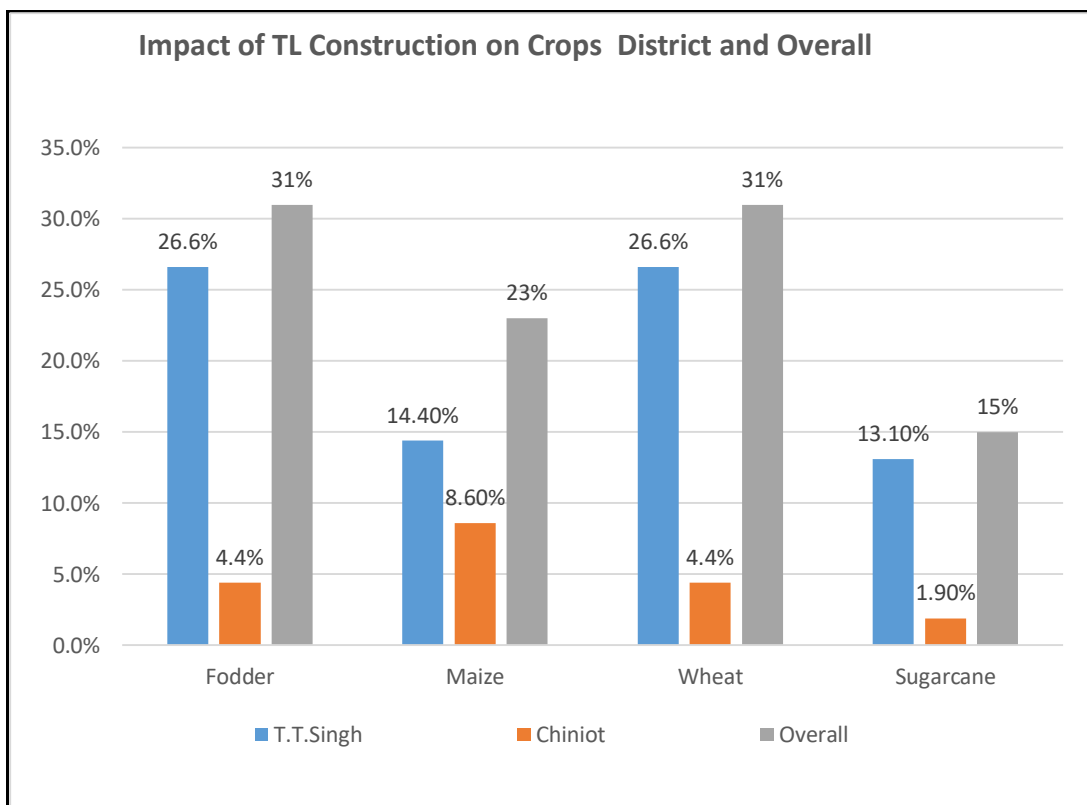
Overall, the agricultural crops cover the entire affected farmland area, while trees (both fruit and none fruit) are grown on the edges by some farms.

Major crops grown in the project area are wheat in rabi season (winter-spring), maize and fodder in kharif season (summer-autumn). The annual crop of sugarcane is quite common. As the village residents also keep milk animals for commercial purposes fodder is also important crop for both rabi and kharif season. Thus, the project's impact assessment has been made on the basis of wheat, maize, fodder and sugarcane crop losses.

Table 3.3 Types of Crops and Area Under Crops Affected by Tower Construction					
District	Sugarcane	Wheat	Fodder	Maize	Total
T.T. Singh	39.0	79.0	64.0	44.0	226.0
Chiniot	6.0	15.0	10.0	26.0	57.0

<sup>1</sup> The farmers in this area grow three crops in a year – Wheat (6 Month) fodder (3 Month) and Maize (3 Month). The sugarcane on the other hand is a annual crop.

<b>Total</b>	45.0	94.0	74.0	70.0	283.0
<b>% age</b>	16%	33%	26%	24%	



### 3.2.3 Affected Trees

The construction of towers and stringing will affect two types of - fruit and wood –trees

**Fruit Trees:** There are only two fruit orchards on the entire COI of the TL. One with mix of Mango, Guava and orange trees and second with only orange trees (see Table 3.4). There are other farms planted scattered fruit trees on the edges of the agriculture farms. The socio-economic survey team estimated 31 orange, 11 mango and 38 guava trees will be affected during stringing activity. Besides 18 others fruit trees-berry and jaman will also affected from the TL. All these fruit trees are at fruit bearing age. The NTDC allow growing fruit trees of low height under the 220 KV transmission lines. The impact on fruit trees can be minimized or totally eliminated by using steel folding stands or crane during stringing.

**Wood trees:** Because of the small land holding size and extensive use of agro based machinery, the farmers do not keep wood trees in the agriculture farms, instead wood trees are only kept at the edges of irrigation channels and farm based cattle sheds as summer shelter. Secondly the wood trees are natural growth and he number of trees as per their shelter requirements. Shisham is found commonly in patches, as well as in scattered form on the barren land, edges of irrigation channels etc. Besides Shisham trees, neem and sumbal trees are common. Table 3.4 shows that a total of 473 wood trees will be affected,

with almost equal number (235) from grid station land and (238) from tower construction. Of the total trees to be removed from the TL corridor, around 11% will be in Chiniot district and remaining 89% in T.T. Singh district. While overwhelming majority (86%) of fruit trees will be removed / affected from T.T.Singh district alone.

Table 3.4 Number of Affected Fruit and Wood Trees by Faisalabad West TI/GS						
Types of Trees		Transmission Line			Grid Station	Total
		Chiniot	T.T. Singh	Total		
<b>1. Fruit Trees (total)</b>		<b>5</b>	<b>93</b>	<b>98</b>	<b>5</b>	<b>103</b>
	1. Orange	0	31	31	0	31
	2. Mango	0	11	11	0	11
	3. Guava	0	38	38	0	38
	<b>4.Others*</b>	5	13	18	5	23
<b>2. Wood Trees (Total)</b>		<b>32</b>	<b>206</b>	<b>238</b>	<b>235</b>	<b>473</b>
	1.Shisham	16	114	130	127	257
	2.Kikar	7	58	65	85	150
	3.Popular/Euc	6	24	30	15	45
	4.others	3	10	13	8	21
<b>Total Affected Trees</b>		<b>37</b>	<b>299</b>	<b>336</b>	<b>240</b>	<b>576</b>
		11%	89%	58%	42%	

\* Others (Fruit), include Jaman and Berri trees.

\* Others (Wood) include Neem and Sumbal trees.

### 3.2.4 Impacts of Towers

The 40 km long 220kV transmission line will require the construction of a total 112 towers, of which 108 (98%) towers will be constructed in productive lands (in croplands) and 4 towers (3%) in barren but private Lands. None of the towers will be placed in urban area or have a low-bar, and sufficient clearance will be provided to ensure access by tractors and allow the affected farmers continued and unhindered cultivation of their land.

The farmland under and around towers will, however, be affected temporarily by the loss of crops and trees during a 3-tier process of tower construction, namely: (i) construction of foundations, (ii) erection of towers, and (iii) stringing of power cables. As the length of the line is small, the whole process will be completed in maximum of 12 months, thereby causing crop losses for up to two cropping seasons. Accordingly, cash compensation to the affected farmers for the loss of agricultural crops will be paid for two seasons.

Table 3.5 shows that the construction of 112 towers will affect 283 acres (114.58 ha) of the cropped area. Of the total cropped area around 9% will be affected by tower construction and remaining 91% during stringing,

Table 3.5 Number and Area of Affectees from TL Construction						
	Tower Construction		Stringing			
	No of APs	Affected Area ( m <sup>2</sup> )	No of APs	Affected Area ( m <sup>2</sup> )	No of APs	Affected Area ( m <sup>2</sup> )
T.T. Singh	80	79200	135	828664	215	907864
Chiniot	22	20700	37	217281	59	237981
<b>Total</b>	<b>102</b>	<b>25.0 Acres (9.99 ha)</b>	<b>172</b>	<b>258.0 Acres (104.6 ha)</b>	<b>274</b>	<b>283.0 Acres (114.45 ha)</b>

### 3.2.5 Tower Foundations

As a first step in TL construction, a total of 112 (102 for 220 kv towers and 10 Angle towers) foundation will be laid down. As stated above in section 3.2.3, a total of 108 foundations will be constructed in productive lands (in croplands) and 4 (3%) in barren but private Lands. The foundation construction will immediately follow backfilling and leveling of land. The construction of tower foundations will be part of and 1<sup>st</sup> step in 3-tier process. The APs will be compensated as part of the one year crop compensation process.

### 3.2.6 Impacts of TL Corridor (Stringing Activity)

Sections of the transmission line falling in-between the towers (30 m wide corridor) has been termed as TL Corridor, where the damage or loss of crops will be caused in farmland areas by the stringing of power cables. This final activity is usually carried out rapidly at one stretch of time and completed in one cropping season, for which one-time crop compensation will be paid to the affected farmers. Cash compensation will also be paid to AHs for the loss or removal of their trees falling within the 30m wide corridor (whether Towers or TL Corridor). Table 3.6 shows that TL Corridor in productive farmlands will be 40 km long and it will affect one crop on a total area of 104.6 ha.

Table 3.6: 220 KV FSD West TL Length and Area of Farmland Affected by TL Corridor			
Cropping Season	Affected Crop	Affected Crop Area	% of total Area
Annual Crop	Sugarcane	32.42 Acres (13.12ha)	(13.5%)
Rabi Crops	Wheat	71.21 Acres (28.82ha)	(28.5%)
Kharif	Maize	77.64 Acres (31.42 ha)	(31.0%)
	Fodder	67.31 Acres (27.24 ha)	(27.0%)
<b>Total:</b>		<b>248.6 Acres (100.6 ha)</b>	

### 3.2.7 Impact on Affected Households

- The construction of Transmission Line will temporarily affect a total of 274 households (Ahs) of which 215 (78.5%) will be from district T.T. Singh and remaining 59 (21.5%) from Disst. Chiniot.
- Around 95% is the total agriculture land is under self-cultivation, share cropping is totally eliminated and annual renting (5%) is prevalent.
- The overall average farm size is around 6 acres.
- Thus, overall the farming AHs (both landowners and renters) have mostly small to medium farm holdings; and larger farms over 20 acres are very few.

Table 3.7 Impact of Towers on Household				
District	No of Affected HHs	Total Farm Land (Ha)	Temporary Affected Farm Land (Ha)	Percentage of Affected Land
T.T.Singh	215	837	82.8	9.9
Chiniot	59	185	17.8 <sup>2</sup>	9.6
Total	274	1022	100.6	9.8

The socio-economic data survey revealed that the total agriculture land owned/cultivated by the 274 AHs is 2526 acres (1022 ha) with an average of 9.2 Acres (3.72 Ha) per household. The landholding size in T.T.Singh is higher (8.9 acres) as against the TL part of Chiniot district with 6.9 acres.

The implementation of TL will affect around 100 ha area of these Ahs, which is around 9.8% of their total land under cultivation. The impact on average land owner/ cultivator will be a temporary crop loss of 0.36 hectares. Construction of tower will affect around 37% of the Ahs while the remaining 63 % will face crop loss during stringing.

## 3.3 IMPACT OF 500/220 KV GRID STATION

### 3.3.1 Background

The NTDC back in December 2011 approved the site for proposed 500/220 KV grid station. The Government of Punjab under section 4 of the Land Acquisition Act 1894, vide DC Chiniot notification No 657/DRA 21-3-2012 published this notification in the Punjab Gazette on 09-05-2012 on behalf of NTDC WAPDA. On June 09, 2015 the under section 5 of the LA Act provided the details of the land likely to be acquired. The section 5 notification provided square and Khasra wise details of the total 395.15 Kanal (49.5 Acres or 20.03 hectares) of land of Chak No 201, Tehsil Bhawana District Chiniot.

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<sup>2</sup> Minus 3%barren land

The Government of Punjab Gazette of June 09, 2015, notified the Square and Khasra Nos of land likely to be acquired for public purposes by Land Acquisition Collector (EHV-I) NTDC. The proposed land will be acquired from 2 squares of Land (square No 2 & 3)<sup>3</sup> on the north – eastern side of Painsara –Bhawana Road in the jurisdiction of Chak No.201. The total land to be acquired will be around 45 acres (18.2 ha).

### 3.3.2 Nature of Ownership and Tenure

#### 3.3.2.1 Land Ownership:

Land parcels are available in two major categories of ownership- joint family ownership and individual ownership. Over 45 acres of agriculture land will be acquired from A total of 21 land owners with an average of 2.14 acres per household. The land ownership is presented in table 3.8. Annex-3 provides square and acre-wise distribution of land by owners and cultivators

<b>Table: 3.8 Land Owners of Proposed 500/220 KV Faisalabad Grid Station</b>		
<b>Square No</b>	<b>No of Acres</b>	<b>Land Owners</b>
2	19	Joint Ownership of Massan Sipra Family ( partners include Raja, Salabat, Allah yar, Shahadat, Maqbool, Aamir, Mst Khairan Bibi and Mst Janat Bibi
	1.5	Muhammad Ali Sipra
	1.5	Muhammad Anwar S/o Ahmad
3	12	Barkhurdar Lak Family ( partners Ghulam Abbas, Muzaffar Abbas, Falak Sher and Muhammad Ashraf
	3	Mazhar Abbas S/o Muhammad Yousaf
	3	Saif S/o Shamir
	3	Yaqub S/o Shamir
	3	Abdul Sattar S/O Kasim
	1	Nayyar Abbas
<b>Total</b>	<b>45 Acres</b>	<b>Total number of land owners 19</b>

The above table shows that 2 (Sipra and Lak) families sharing about 69% of the total land and the remaining 31% is divided among 7 small land holder ranging 1 to 3 acres per family. The number total owner/titleholders for the subject land is 19. Of the total 45 acres of land only 12 Acres (27%) is under self –cultivation and the remaining 33 acres (73%) cultivated by 18 different families on annual rent basis.

#### 3.3.2.2 Land Tenure:

A total of 33 persons are currently cultivating 46.5 acres ((18.61 hectares) of land under acquisition for the proposed Grid Station, sharing on average 1.4 acre. Of the total cultivators, 8 (24%) are land owners and remaining 25 (76%) cultivating land on annual rent. 11.5 out of 46 acres (24%) are under self- cultivation and remaining 35 Acres (76%) is rented out for cultivation. Appendix-3 provides detail on each acre for the owner of the land and

<sup>3</sup> See Aks-Shajra attached.

the present cultivator/renter of small pieces of land for their livelihood. The current status of land tenure is summarized in table 3.9 below.

Table 3.9 Land Tenure by Cultivators and Size							
Square No	Description	Size of Plot under Rented Cultivation (Acres)				Land Under Self- Cultivation (Acres)	Total
		≤ 0.5	1-1.5	2-3	≥ 4		
2	No of Farmers	9	7	2	1	2	21 Persons
	Total Land	4.5	7.5	4.5	3.5	1.5	21.5 Acres
3	No of Farmers	2	2	1	1	6	12 Persons
	Total Land	1.5	2.5	3	8	10	25 Acres

≤ 0.5 ( less than equal to half acre of land rented for cultivation

1-1.5 ( one to 1,5 acres of land rented for cultivation

2-3 ( those cultivating rented land between 2 to 3 acres .

≥ 4 those cultivating more than 4 acres of rented land

### 3.4 GRID STATION IMPACTS

The overall resettlement impacts of Grid Station on the land owners and land cultivators are assessed as significant by losing agricultural land as the only source of income. The number of Grid Station AHs is forty six (46), whereas only four (4) families will be relocated.

Major crops grown in the proposed land acquisition area are wheat in the Rabi season (winter-spring) and fodder and maize in the Kharif season (summer-autumn). This is the dominant cropping pattern in the project area. Thus, the impacts on crops have been determined on the basis wheat, and maize crop losses.

In addition, there is some plantation in the private land. The trees include Shisham (*Dilbergia sisso*), Eucalyptus, Kikar (*Acacia*) and poplar. Efforts were made count and qualify the girth level of the trees. The land owners while vacating the land for the grid station construction will also lose ownership of around 242 trees. NTDC will not remove all these trees and around 40-50% will be saved after final design of the grid station.

Five housing structure including one cattle yard will be removed from the land being acquired for Grid Station.

The entire land area will be walled and guarded and the local community will be debarred for access in the acquired land. However there is no public road or walkway in the proposed area.

#### 3.4.1 Impacts on Land

The NTDC requires land measuring over 46 acres. The entire piece of land is owned by private individuals. The land acquisition is under process through the Land Acquisition Act 1894 (as amended to date) and JICA policies and Guide Lines. The entire private land is under cultivation. There is no impact on religious and community properties, however some private residential structures exist in the land.

A total of nineteen (19) Households with the population of 110 persons will be affected. All these AHs will lose their land as a direct impact due to construction of Grid Station. The

detail of land to be acquired is given in table 3.8 and 3.9 above and the detail of affected persons, their loss of land and severity of impacts are explained at Appendix-3.

The process of identification and confirmation of land and entitlements involved;

- i. Participatory survey of title and non-title holders of affected assets.
- ii. Verification of titles and losses from agriculture production record (Khasra Gardawari) from canal and revenue record.
- iii. Verification of ownership and titles from revenue records.
- iv. Valuation of affected land and assets from the local/neighborhood farmers and local market.
- v. Measurement and Valuation of affected land and assets from the concerned departments.

### 3.4.2 Severity of Impact:

11 (58%) of the total 19 AHs will lose 100% percent of the total agriculture land, while the remaining 42% will lose 40-50% of the land. It is therefore assessed that all (100%) AHs will face significant impacts due to more than 10% of land loss as their source of income. Majority of the AHs have other source of income for their livelihoods. In addition to standard crop compensation, they will get an additional one severe impact allowance equal to one full year harvest (Winter & Summer) of the affected land as compensation due to more than 10% of land loss.

### 3.4.3 Impacts on Crops

The project site is considered as high yielding canal irrigated agricultural area. The agricultural area is divided in two cropping seasons; Kharif (summer harvest) and Rabi (winter harvest). The Rabi season is dominated by wheat crop while the Krarif season is dominated by consecutive two maize crops. The irrigated farmlands are cropped mainly with wheat and, maize and fodders .This is the dominant cropping pattern in the project area. Thus, the impacts assessment on crops has been made on the basis of Wheat and maize.

During survey, it is assessed that by acquiring such land, the income of affected person would be reduced to some extent due to the loss of some proportion of land. This would be mitigated by compensation based on one year harvest on the specific cropping pattern. Table 3.10 provides the affected area of crops by type.

<b>Table 3.10 Inventory of Loss of Crops</b>			
<b>Kharif (Summer Crop)</b>		<b>Rabbi (Winter Crop)</b>	
<b>Crops</b>	<b>Cultivated land (acres)</b>	<b>Crops</b>	<b>Cultivated land (acres)</b>
Annual Crop -Sugercane	18	Wheat	33
Maize	36	Fodder	10
Fodder	15		43
<b>Total</b>	<b>69</b>	<b>Grand Total</b>	<b>112</b>

Source: Participatory Field Survey with APs



### 3.4.4 Impact on Trees

There is some plantation in the private land. The trees include Shisham (*Dilbergia sisso*), Eucalyptus, Kikar (*Acacia*) and poplar. Efforts were made count and qualify the girth level of the trees. The land owners while vacating the land for the grid station construction will also lose ownership of around 242 trees. NTDC will not remove all these trees and around 40-50% will be saved after final design of the grid station. The land owners will be compensated for loss of trees at market rates. Efforts will be made to retain trees as much as possible, in order to minimize the loss of trees at the time of final design. The detail of private trees is given in table 3.4 above in section 3.2.3.

Table 3.11 Inventory of Loss of Private Trees					
Sr. No.	Shisham	Kikar	Popular/Euc	Others	Total
1	127	85	15	5	232

### 3.5 Impact on Structures and Building

Six housing structure including one cattle yard will be removed from the land being acquired for Grid Station. The families living in these houses will have to vacate the premises. The residents will be compensated as per the local market rate for the structures and will be allowed to take salvage material. As the cost of land will be paid with the other agriculture plots the house owners will be paid 15% rehabilitation allowance.

Table 3.12 Existing Structures in Grid Station Land			
Square /Acre No	Resident/Occupant	Measurement	Title
2/22	Shahnawaz s/o Pehlwan	3 Kacha rooms 12*14 4Pakkar rooms 12*14	Owner of residential area 1 kanal.5 marla
2/24	Meer S/O Hassan	One kacha living 12*14	3 marla house/ Owner
2/25	Salat S/O Allahditta	2 kacha rooms 10*12 1 Pakka living room 10*12	2 kanal area
3/21	Nayyer Abbas	2 rooms pakka 12*13 & 12*14	2 kanal
3/10	Mazhar Abbas	3 pacca rooms 12*22 1 pacca room 12*20 2 Pacca rooms 12*10	2 Kanal
3/10	Yaqub s/o Shameer	2 kacha room 10*12	5 Marla
List of Structures Under Transmission Line			
No	Location	Nature of Structure	Impact
1	Tower No. 2-3	Animal Shed	
2	Tower No 3-4	Government Primary School	
3	TowerNo 13-14	Road side Katcha Shop	
4	Tower No.18-19	3 One room Katcha Houses	
5	Tower No. 20-21	Katcha Animal Shed	
6	Tower No. 24-25	One room animal shed	

7	Tower No. 31-32	Housing Compound	
8	Tower No. 35-36	Housing Compound	
9	Tower No 38-39	Animal Shed & Compound	
10	Tower No 46-47	6 Houses of village	
11	Tower No 60-65	Farm House	
12	Tower No. 69-70	Cattle Shed	

### **3.6 Impact on Employment**

None of the AHs will lose employment. AHs losing major portion of their cultivated land will get the compensation for land lost, so they may purchase land within the same periphery. Many of the AHs have other sources of livelihood along with agriculture land. However, nobody will lose their employment due to acquisition of land for Grid Station.

### **3.7 Impact on Vulnerable**

During field survey, the income of the AHs is judged according to their present means of livelihood and they are categorized on the prevailing poverty line. The household which have income below poverty line (1.25 US\$ per capita per day as adopted from Government of Pakistan's Economic Survey 2011-12) are labeled as vulnerable household. Based on the survey, no households have been identified as vulnerable. It is also assessed that no household headed by women will be affected.

## 4.SOCIO-ECONOMIC PROFILE OF AFFECTED PEOPLE

### 4.1 General

The socioeconomic conditions of ADs were derived from primary data through conducting field survey, and supplemented through secondary data, i.e. data from Directorate of Agriculture, Economics & Marketing, Forest Department, District Population Census, Punjab Development Statistics 2014 and relevant websites.

Five different categories of affectees identified from this project;

#### 1. Grid Station Construction:

##### 1.1 Permanent Affectees from Land Acquisition

##### 1.2 Permanent Affectees from residential buildings and other assets

#### 2. Transmission Line:

##### 2.1 Permanent Affectees from residential buildings under the TL/RoW

##### 2.2 Temporary Affectees from Tower construction

##### 2.3 Temporary Affectees from Stringing

The primary data collected separately for Grid Station – from where NTDC will acquire 48 acres of agriculture land will be acquired and housing infrastructure of the farmers residing ) and affected people from tower spotting and stringing. The data collected covering the nature and magnitude of the impacts and impact on the livelihood of APs. The socioeconomic profile of the sub-project affected families was established based on the interviews of 85 household's (16 from Grid Station site and 69 from Transmission Line affectees) Of living in 17 different villages in 2 districts.

The total number of APs from grid Station and Transmission line shown in table 4.1 below.

<b>Table: 4.1 No of Affected Persons by Village and District</b>			
	Area	Village	No of APs
<b>1</b>	Grid Station Land	Chak 201 JB, tehsil Bhawana	35 (11%)
<b>2</b>	Transmission Line District Chiniot-Tehsil Bhawana	Chak 201, chak Bhati Wala, Chak 203, Chak 248 Maloka, Chak 240	55 (18%)
<b>3</b>	Transmission Line District T.T.Singh Tehsil Gojra	Chak 340, Chak 341, Chak 345, Chak 348, Chak 415, Chak 416, Chak 352, Chak 355 Chak 353, Chak 340, Chak303, Chak 304, Chak 300, Chak 299, Chak 301	219 (71%)
	<b>Total</b>	<b>20 villages</b>	<b>309</b>

The sample was selected at 27% of the total APs from tower construction proportionately by the number of AP in each village and district. This data would provide the socioeconomic profile of AHs and the baseline information for subsequent monitoring and evaluation studies.

#### 4.1.1 Sample Survey of Affected Households

The preparation of this LARP, including measurement of affected assets, sample survey of AHs and community consultations (see Section 6) were carried out during June 2016 and finalized during the 2<sup>nd</sup> week of July 2016. As the proposed transmission line falls in one agro-ecological zone, it was pertinent to select the sample from different villages and from both Chiniot and Toba Tek Singh districts.

A total of 85 households from 17 different villages along the transmission line were selected for the Socio-economic survey. The sample survey was conducted with the families living in the villages along the TL corridor. The district and AH category-wise distribution of sample households is presented in table 4.2 below.

<b>Table 4.2 Sample Household for Socio-Economic Survey</b>						
<b>District</b>	<b>Total Affected Households</b>	<b>Total Sample</b>	<b>Tower Affectees</b>	<b>Stringing Affectees</b>	<b>Infrastructure Affectees</b>	<b>% of Total</b>
<b>Chiniot</b>	53	22	8	4	10	41.5%
<b>T.T. Singh</b>	219	57	25	22	10	26%
<b>Grid Station</b>	<b>35</b>	<b>16</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>45.7%</b>
<b>Total</b>	<b>307</b>	<b>85</b>	<b>33</b>	<b>24</b>	<b>25</b>	<b>28%</b>

## 4.2 Household Data Analysis

Majority of the respondents of the in socio-economic survey were either heads of household or elderly women from the same household. Only 15 (17%) heads of households/elder were not available, so instead their closest relatives were interviewed. Almost all the AHs are Muslims. Ethnically, the transmission line corridor area representing central Punjab mix of ethnic identities – local jats, Lak, Sipra and settlers Rajput biradaries, is speaking Punjabi language. All these groups are well adapted to the local cultures.

### 4.2.1 Settlement Pattern

The field survey has shown that the settlement pattern along the proposed transmission line route alignment is rural and an overwhelming majority of the affectees are small and medium sized farmers, majority agriculture land under self-cultivation, sharecropping is totally replaced by annual renting of small pieces of land which are no more manageable by the small owners. The settlements, as visible from the number of village, are compact and large around 200+ households each. The average landholding is medium and small and majority land is under self –cultivation.

### 4.2.2 Indigenous People

None of the AHs are tribal or minority members and all affected land under towers and stringing is held in private ownership (i.e. no tribal or communal ownership). Similarly, none of AHs were found to be vulnerable minorities (either female, disabled/aged persons or poor). Therefore the standard provisions of the LARF and this LARP are sufficient to ensure an effective compensation process. The JICA's policy, as specified in the Indigenous Peoples

Development Framework (IPDF) prepared for this project is not triggered, and therefore neither an IPDP nor special action is required for this project. This section of the LARP is prepared as per the *JICA Guidelines 2014 section- 8* and the *World Bank Safeguard Policy OP 4.10 Appendix –B*.

#### 4.2.3 Demographic Indicators

The overall total population of the 307 AHs is estimated at 2074 affected persons (APs) who will temporarily suffer insignificantly by the loss of crops, trees and infrastructure. Around 9.8% of the total (Grid Station Affectees) will, however, permanently suffer significant loss of property and livelihood. The nature and magnitude of losses will be discussed in *separate section on project impacts*.

As such the combined household size for both transmission line and Grid station affectees their average household size comes out at 6.6 persons, which indicates extend/joint family system being dominant among the AHs to share in the responsibilities and benefits and serve as safety net. This practice is found almost common in rural areas of both Chiniot and T.T.Singh districts. Table 4.3 below gives affected category wise details on AHs, Population and Average household size.

Table 4.3: Average HH Size and Population of AHs by Districts				
Affected Locations		Affected Households (No.)		
No.	Location	No. Ahs	Population	HH Size
1	Chiniot TL Affectees	53	382	7.2
2	T.T.Singh TL Affectees	219	1489	6.8
3	FSD West Grid Station Affectees	35	203	5.8
Total (Project):		307	2074	6.6

#### 4.2.4 Gender Composition

Based on the Socio-economic survey the gender composition in the project area along the TL and in Grid Station is 108 female per 100 male i.e. 48 % male and 52% female. The total APs in this respect stood at 996 male and 1078 female. Almost the same M/F ratio stands valid for each of the two groups of APs, the Grid Station and transmission line affectees. Table 4.4 below presents district-wise details APs (male and female populations) in each component of the project.

Table 4.4: Gender Composition & Population of AHs by Districts			
Affected Locations		Affected Households (No.)	
Location	Total Population	Male	Female
Chiniot TL Affectees	382	183	199
T.T.Singh TL Affectees	1489	715	774
FSD West Grid Station Affectees	203	97	106
Total (Project):	2074	995	1079

#### 4.2.5 Housing

**Living Area:** The common and major finding of both the Socio-economic Survey interviews and field observation, is that a great majority of the AHs (85%) lives in small to medium sized (having 7 to 20 *marla* plots) mud-brick houses with wooden or semi-concrete roofing, the size depending upon their socio-economic status, affordability and size of the family and the number of animals the family keeps. Whereas the remaining 15% are relatively built mostly with brick-mud-wood and partially concreted and attached with an Dera (large men's houses used for meetings, guests, with additional usage for storage of agricultural equipment, parking of vehicles and tractors.

Table 4.5 SIZE OF HOUSING UNITS IN TL AREAS			
Area of House (Marla)	Average (Marla)	No of Houses	Percentage
Less Than 10	8.5	38	44.7%
10-15	15	17	20.0%
16-20	20	25	29.5%
20+	30	5	5.8%

**Ownership:** Over 86% of the houses are owned by the respondent families, while the remaining 9% lives in village common land and 5% on provincial government land. Those living outside the Chak (village) boundaries in their respective agriculture land own or provided temporary living space.

**Construction:** Around 25% of the households are Kacha (mud walls and straw /wood roofing. While 62% constructed with backed bricks and girder T iron roofing. The remaining 13% are called Pakka with cement plastered walls RCC roofing.

#### 4.2.6 Civic Facilities:

**a) Electricity:** Around 68% of the households reported without electricity. The remaining 32% are still without electricity that includes Small kacha households constructed in the suburb of the village, called Kachi basti or those living in the agriculture fields.

**b) Drinking Water:** Overwhelming majority (89%) collect drinking water from in-house or from neighborhoods shallow hand pumps. It is collection because hand pumps are always installed at open and common places for general uses – bathing, washing, watering animals etc. Water for drinking and kitchen use is collected and stored at separate places

**c) Latrine:** Hardly 40% households reported having in house latrine, irrespective of the type and use. Few male respondents reported use of their in-house latrine. Majority male population using agriculture fields for defecation.

**d) Waste Water Disposal:** Irrespective of the coverage, the compact villages are provided with open drains through the local government. Around 46% respondents reported connected with the waste water disposal systems for the village.

#### 4.2.7 Agriculture Tenure and Farm Size

An analysis of the land tenure for the sample 85 AHs (both from transmission Line and Grid Station) shows that the farmers cultivating a total of 502 acres of land of which 95% is under self –cultivation and around 5% being cultivated on rent.

The farm size of the sample 85 AHs (*see Table 4.6*) shows that:

- Around 95% is the total agriculture land is under self-cultivation, share cropping is totally eliminated and annual renting (5%) is prevalent.
- The overall average firm size is less than 6 acres which is 6.5 acres in T.T.Singh and 5.5 in Chiniot.
- Whereas around 67% of farmers reported cultivating less than 4 acres of land. ', it ranges from 2.25 acres to the highest 75 acres.
- Over 87% of the households cultivating 58% of the land as against 13% cultivating 42% of Land.
- Thus, overall the farming AHs (both landowners and renters) have mostly small to medium farm holdings; and larger farms over 20 acres are very few.

Range (Acres)	Area under Cultivation		Percentage of Household	Average Farm Size
	Total	Percentage		
01-2.5 Acres	50	10%	30%	2.25
03-05 Acres	111	22%	37%	4.00
06-10 Acres	131	26%	20.5%	8.8
11-15 Acres	82	16.3%	8%	14.0
20-35 Acres	55	11%	2.5%	27.0
35 & Above	75	15%	1.3%	75
	502			

### 4.3 Income Analysis

#### 4.3.1 Occupations

The involvement of affected population in major rural economic sectors as the means of their livelihood was assessed on the basis of number of APs involved in each sector. The findings presented in Table 4.7 below.

- Major finding is that each household have at least 2 two sources of livelihood or on average two bread earners for each family.
- Secondly the livelihood of higher number AHs is dependent on agriculture sector (47%).
- Labor for agriculture and other sectors occupied second highest position in economic activity.
- Employment and business sectors are found to be far lower, as their involvement in these two sectors is 13% and 17%, respectively.

- Although the respondents reported women as house keepers, but they had been quite visible in agriculture activity especially for livestock care, fodder collection as well as seeding and harvesting crops.

<b>Table 4.7: Involvement of Affected Persons in Major Economic Activities</b>		
<b>Sector</b>	<b>Total</b>	<b>%age</b>
Agriculture	76	47%
Employment	22	13%
Labor	37	23%
Business	28	17%
<b>Total</b>	<b>163</b>	<b>100%</b>

#### 4.3.2 Monthly Per Capita Income

As shown in Table 4.8, (i) monthly per capita incomes of the Affected Households average at Rs 13161, range from Rs. 5000 to Rs. 29600. These income levels are for both owner farmers and renters. The figures indicate that majority of the AHs are economically fairly to well off. The relatively poor families, the non-land holders will no longer be affected by the Project.

<b>Table 4.8: Monthly per Capita Incomes of Affected Households)</b>				
<b>Affected District</b>		<b>Affected Households (R s.)</b>		
<b>No.</b>	<b>Name</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Average</b>
1	Chiniot TL Affectees	5500	35000	13500
2	T.T. Singh TL Affectees	6500	40000	15000
3	Grid Station Affectees	5500	35000	13500
<b>Total (Project):</b>		<b>5500</b>	<b>35600</b>	<b>14500</b>

#### 4.3.3 Poverty Level

The national poverty line of 2015 is estimated at Rs. 3750 per person per month. Based on the data provided in the RFS, there are no AHs that fall on or below the poverty line. All the AHs own assets in the form of agriculture land, milk animals and their own shelter. The per capita income levels and moveable and immovable assets rank the APs well above the poverty line. The socio-economic survey identified 163 economically active persons in 85 households, means around 2 bread earners in each household of average 6.6 persons per household.



## 5. INSTITUTIONAL ARRANGEMENTS

This section deals with the institutional arrangements and functions in the preparation and implementation of this Abbreviated LARP. This LARP includes two packages;

- i. As the construction of transmission line does not create any permanent loss of income or property, the NTDC only pay for Crops compensation and infrastructure rehabilitation. NTDC Project implementation LAC will be responsible for assessment and payment for the crops and infrastructure damages.
- ii. Land Acquisition for the grid station will involve permanent loss of livelihood and some residential structures and will require a package for involuntary resettlement and rehabilitation.

The LARP implementation program described in this LARP involves a number of agencies including; NTDC, Board of Revenue, Revenue Department, Forest Department, Agriculture Department, District Government Chiniot, the Punjab Environmental Protection Agency and JICA as detailed below.

### 5.1 National Transmission and Dispatch Company

NTDC as the prime executing agency (EA), bears the overall responsibility for the preparation, implementation and financing of all tasks set out in this LARP, as well as, inter-agency coordination, and monitoring and evaluation activities required the LARP preparation, implementation, and monitoring and evaluation. Institutionally, as shown in Figure 5.1 overleaf, NTDC has three functional divisions, namely the Planning, Projects and Grid Station Construction divisions.

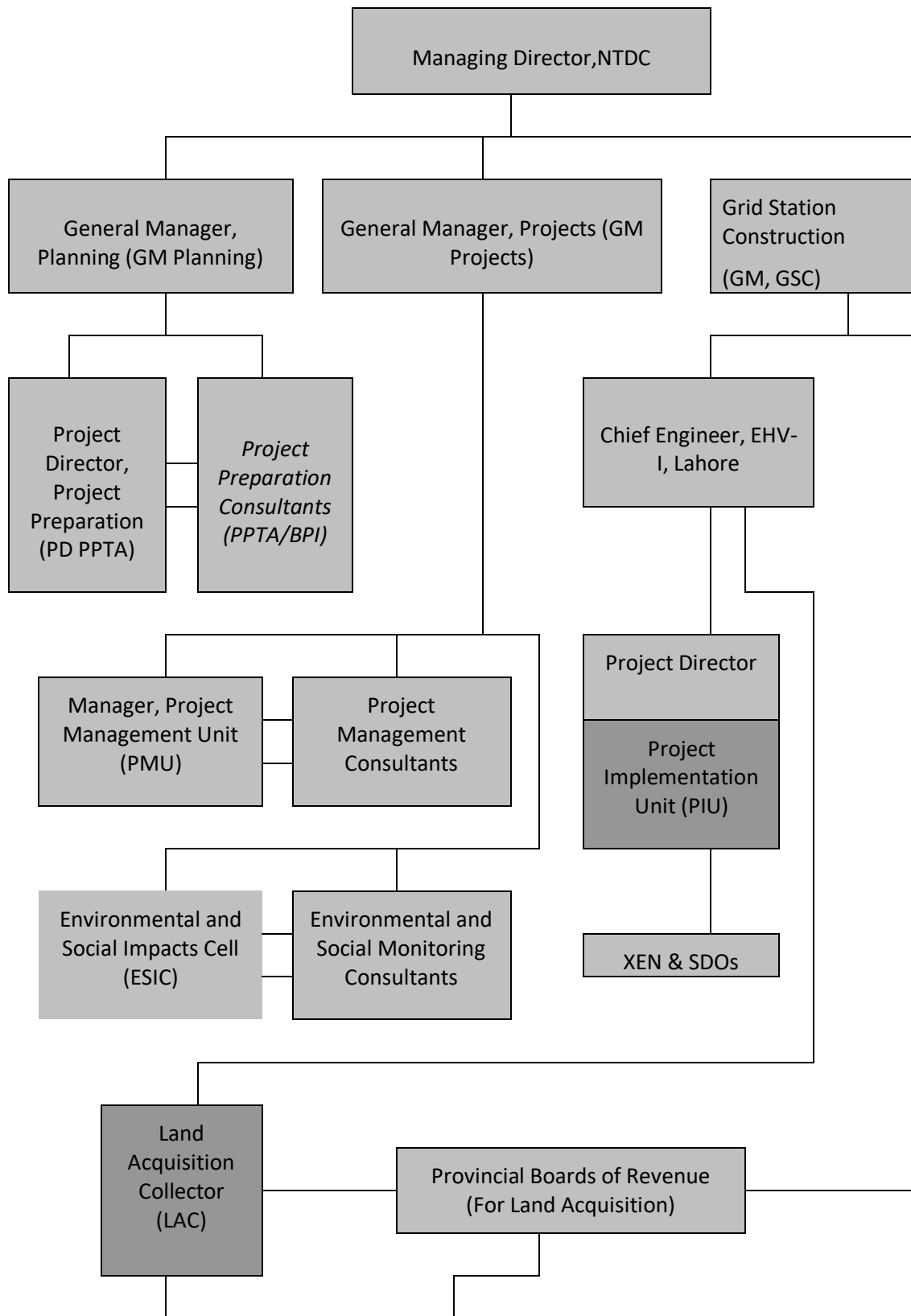
The Planning Division (MP&M) is responsible for planning and preparation of projects and keeping liaison with the Government of Pakistan and JICA, as the donor of this Project. This division is currently responsible for this preparation of this LARP under the support component in line with the JICA Guidelines and obtaining approval from JICA.

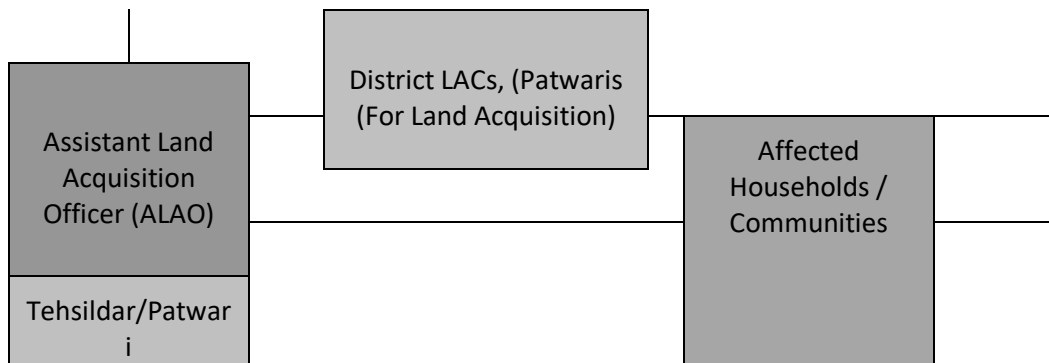
The Projects Division is responsible for the overall management and coordination of the projects. Its major functions include, keeping regular liaison with JICA and relevant departments of the federal and provincial governments, updating of LARP and its monitoring and evaluation activities. In addition, the Project Management Unit (PMU) takes care of the overall coordination and liaison with the Government of Pakistan and international Donor JICA in this case. Secondly, the Environmental and Social Impact Cell (ESIC) is responsible for the updating and internal monitoring of LARPs of approved Projects. The ESIC is being assisted by the Resettlement Specialist for Internal Monitoring and Evaluation. Under the JICA Guidelines an external monitoring consultant will be required for this sub-project.

The Grid Station Construction Division is responsible for implementing the Projects, including LARP preparation/updating and implementation. GM GSC is the final approving authority for the compensation to be paid to the AHs for their affected assets. This large division is divided into two geographical regions, each headed by a Chief Engineer. They are EHV – I (Northern Region, Lahore) and EHV – II (Southern Region, Hyderabad). The construction of Faisalabad West Grid and allied lines falls under the jurisdiction of EHV – I (Lahore), where a Project Director as head of the Project Implementation Unit (PIU), along

with an Executive Engineer and Sub-Divisional Officers (Junior Engineers) will be managing the construction works.

**Figure 5.1: NTDC Organization for LARP Planning, Implementation and Monitoring**





The EHV-I has an in-house Land Acquisition Collector (LAC), who along with his field staff, an Assistant Land Acquisition Officer (*Tehsildar*) and *Patwaris* will take care of the updating (if required) and implementation of the LARP. A Resettlement Specialist will be provided through the Supervision Consultancy team to provide on-site technical assistance to the NTDC LAC.

The NTDC LAC normally works as an independent entity, but in case of local needs like price updating, grievance redressal, etc., involves the respective District Government, especially the District Coordination Officer (DCO / District LAC), and other local leaders, and/or the Provincial Revenue Boards, for addressing broader matters and resolving permanent Land Acquisition issues. In addition, the NTDC LAC will be providing technical assistance from the Resettlement Specialists of Project Management Consultant.

## 5.2 Federal and Provincial Governments

The NTDC usually approaches and involves the respective provincial governments and the federal government involved in the Projects requiring permanent land acquisition and/or for obtaining No-Objection Certificates (NOCs) from the respective departments for traversing or affecting major government infrastructure and resources, like major roads, railway lines, canals, forests, rangelands, wildlife sanctuaries/protected areas, etc. The respective Provincial Boards of Revenue (PBR) are involved by NTDC when it needs to acquire land on permanent basis for the construction of a new grid station. This is not the case in this Project, as the land for the new Moro 500kV grid station had been acquired long ago in 1995. However, compensation for the affected crops, trees and structures will be paid to the affected households. Thus, it is observed that the NTDC LAC will take care of the LARP implementation, and will not require any major involvement of the provincial government in doing so.

## 5.3 Board of Revenue / District Collector / Land Acquisition Collector

Board of Revenue has jurisdiction for land administration, valuation, acquisition and other resettlement related activities. At the Provincial level these functions rest on the Board of Revenue while at District level, the land acquisition activities rest on the District Collector and Assistant Commissioner / Land Acquisition Collector (LAC) of Revenue Department. A number of other supporting officials like Tehsildar, Qanoongo, Patwari, (the land records keeper) carry out specific roles such as titles identification, measurement and verification of land (see figure 5.2) . Functions pertaining to compensation of assets different from land

(i.e., buildings and crops) or income rehabilitation also fall on the part of District Government, especially on the relevant District Departments.

Assistant Commissioner / LAC of Revenue Department is acquiring the identified land from the owners and will pay the due compensation money to the affected owners according to the procedures lay down in land acquisition act 1894 and the entitlement matrix. The Deputy Director Resettlement & Environment through Project Director PPMU has sent details of land to be acquired to Assistant Commissioner / LAC of Revenue Department. Assistant Commissioner / LAC have initiated acquisition and compensation process. PPMU has deposited the estimated amount that is required for compensation of land and other assets to the LAC account; the compensation will be disbursed to the affected persons through Cheques. After compensation, Assistant Commissioner / LAC will handover possession of land to PPMU for construction of PHPP.

#### 5.4 District Government

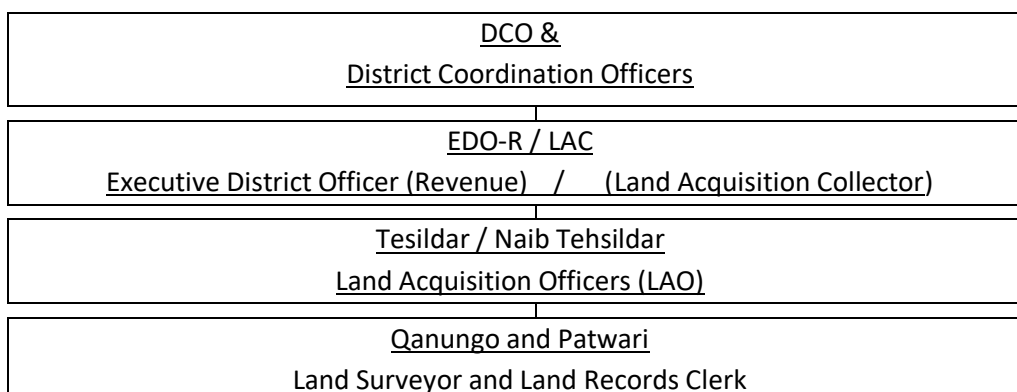
The local government representatives that include District Chairman (District head), Union Chairman (union head), local administration, and others concerned are still being trusted by the people, so being involved in the resettlement process. Moreover, the local government representatives will also be involved in the disbursement of compensation amounts and resolution of complaints (if any) of APs. These representatives will coordinate and make efforts to secure the rights of AHs against their entitlements in collaboration with APC, PPMU and other related agencies staff.

Land acquisition functions are coordinated through the District Collector supported by Assistant Commissioner / LAC and several other staff members of the Revenue Department, most notably the Tehsildar, Qanoongo and Patwaris, (record keepers) carry out specific roles such as titles identification and verification of the ownership. Crops and trees compensation are assessed by Agriculture Department and Forest Department on current market rate.

#### 5.5 District and Union Councils

The respective District Governments have jurisdiction for land administration, valuation and acquisition. At the provincial level these functions rest with the Board of Revenue while at district level they rest with the District Coordination Office (DCO) and the Land Acquisition Collector (LAC) within the DCO office. The Tehsildars and a number of minor agents, most notably the Qanungos (land Surveyors) and Patwari, (land records clerk), carry out specific roles such as titles identification and verification (see Figure 5.2).

Figure 5.2: Organization of District Land Acquisition Collector Office



Their major involvement is usually sought by NTDC for permanent land acquisition for constructing new grid stations and other similar facilities. Functions pertaining to compensation of assets different from land (i.e. buildings, crops and trees) or income rehabilitation also may fall on local governments, more specifically the respective district departments.

The NTDC LAC and PIU Engineers usually resolve the issues and redress grievances related to clearing of TL RoW and compensation for affected assets through dialogue and negotiations with AHs and local community leaders. But where they cannot succeed, they will approach the respective District Governments, Union Councils and community leaders for seeking their assistance in getting such land and asset related disputes and issues resolved, assessing/revising the compensation costs, and redressing outstanding grievances of the affected households/communities. In short, NTDC will make all out efforts to resolve all the issues and redress grievances in an informal pre-litigation manner, to avoid delays and ensure smooth execution of the Project works.

## 5.6 Affected Persons Committee (APC)

In order to achieve fair and timely compensation, an affected person committee comprising of five members from Grid Station AHs has been formed. The names of this APC are given in table 5.3. The APC is acting as forum / Platform for (a) linking and continuously maintaining the on-going interaction between the project staff and the AHs; (b) disclosure of information and consultation process; and (c) identify problems and undertake remedial / correctional actions. The APC comprises a president, secretary and 3 members nominated by the APs. The APC members held regular meetings with the LARP Consultant in collecting data and assessment of cost for the land.

In these meetings, all aspects of land acquisition and resettlement are discussed. The issues raised by the APs related to resettlement and compensation process were clarified. The on-going consultation process has demonstrated that all the APs are generally willing and are very cooperative towards this project as they think this project, in addition to provide electric power to the wider population and productivity and economic growth of the country, the project will provide job opportunities to the local during construction as well as in operation and maintenance of Grid Station, which will help to improve their livelihoods.

For perceived losses, affected persons felt the risk of under estimation of land price and standing crops and trees and residential buildings. They have also shown serious concerns about timely payment of compensation. In ESIC-NTDC played a these meetings and PPMU-RU was very supportive. They have been very supportive role by participating in one meeting at Grid Station and proactive in facilitating the dissemination of information with the affected persons. The PPMU has given assurance to the APs and APC for addressing all their concerns before and during the works of PHPP.

**Table 5.3: Detail of affected Person Committee**

Sr. No.	Name	Village	Cell No
1.	Khalid Abbas S/O Barkhurdar (President )	Chak 201	0345-7857026
2.	M. Yaqub S/O Shameer (Secretary)	Chak 201	0341-9561201
3.	Akhter S/O Maqbool S/O Massan (Member)	Chak 201	0345-7872210
4.	Nayyer Abbas (Member)	Chak 201	0341-7376201
5.	Lal Muhammad s/o Raja (Member)	Chak 201	0344-7655907

## 5.7 Grievance Redress Committee

To get the outstanding disputes resolved and grievances redressed effectively, NTDC will request the respective District Governments and Union Councils for assistance by forming a formal grievance redressal committee (GRC) at each district of the Project's affected area. NTDC's PIU and LAC will inform all the affected communities of the formation of the same and advise them to file their complaints with the GRC to be established at each Lot of the sub-project. The GRC's structure is shown in Figure 5.3 below, and its scope and functions are described in Chapter 7 (Grievance Redress Process).

**Figure 5.3: Structure of a Grievance Redressal Committee at Each District**

Project Manager, PIU, NTDC (Coordinator)			
Project Director EHV for each Lot. of 3 <sup>rd</sup> Circuit Transmission Line (Principle Member)	Executive Engineer (XEN) of Each Lot along with SDO-EHV  ALO-EHV  Pawari-EHV	(AP's representatives)  (Member)	Head of ESIC, NTDC  (Member-Secretary)

## 5.8 Grievance Redress Process

A grievance mechanism will be available to allow an AH appealing any disagreeable decision, practice or activity arising from land or other assets compensation. AHs were fully informed of their rights and of the procedures for addressing complaints whether verbally or in writing during consultation, survey, and time of compensation.

Care will always be taken to prevent grievances rather than going through a redress process. This can be obtained through careful LAR design and implementation, by ensuring full participation and consultation with the AHs, and by establishing extensive communication and coordination between the communities, PD/PIU offices and LACs, and the districts governments in general.

As finances will move differently for land and other items compensation or rehabilitation (in the first case funds will move from NTDC through the ALO to the AHs, while in the second funds will go directly from NTDC to the AHs. The complaint and grievances will be addressed through two different processes as described in Table 5.4.

**Table 5.4: Grievance Resolution Process**

Land & Crop Compensation Issues	Other Compensation or Project Issues
1. First, complaints resolution will be attempted at village level through the involvement of APC and/or informal mediators.	1. First, complaints resolution will be attempted at village level through the involvement of APC and/or informal mediators.



<p>2. If still unsettled, a grievance can then be lodged to the LAC who has 30 days to decide on the case.</p>	<p>2. If still unsettled, a grievance can be lodged to the GRC, which will have 30 days to respond.</p>
<p>3. If there will be no solution, a grievance can be lodged to the PMU. The AH must lodge the complaint within 1 month of lodging the original complaint with the AC / LAC and must produce documents supporting his/her claim. The PMU will provide the decision within 21 days of registering the complaint. The PMU decision must be in compliance with this Abbreviated LARP provisions.</p>	<p>3. If there will be no solution, a grievance can be lodged to the PMU. The AH must lodge the complaint within 1 month of lodging the original complaint with the AC / LAC and must produce documents supporting his/her claim. The PMU will provide the decision within 21 days of registering the complaint. The PMU decision must be in compliance with this Abbreviated LARP provisions.</p>
<p>4. If the grievance redress system fail to satisfy the AH, they can further submit their case to the appropriate court of law as per the process set out in Sections 18 to 22 of the LAA (1894).</p>	<p>4. If the grievance redress system fail to satisfy the AH, they can further submit their case to the appropriate court of law as per the process set out in Sections 18 to 22 of the LAA (1894).</p>

## 6. CONSULTATION AND DISCLOSURE

This section briefly describes the mechanisms for consultation with the APs, disclosure of the abbreviated LARP through distribution of informative material to create awareness among the affectees regarding their entitlements and compensation payment procedures and grievances redress mechanism.

### 6.1 Consultation Undertaken for the Abbreviated LARP

The consultative process undertaken for the preparation of this LARP included not only AHs, but also the local government representatives (Union council Chairman and Vice Chairman of Chak 201, and other community members. Special attention was paid to identify the needs of vulnerable groups such as the poor, women, and elderly), to ensure that their views have been considered in the formulation of this LARP.

Consultations were conducted as part of Resettlement Plan and in the preparation of inventory of affected lands and other assets as per JICA Guidelines / Policy on Involuntary Resettlement. The communities' and especially the AHs' responses to the proposed project were found positive during different consultation meetings.

**Table 6.1 Participants in Group Discussions and Consultations**

Sr. No.	Date	Participants	Key Agenda
1	20-05-2016	10	<ul style="list-style-type: none"> <li>• Introduction of project</li> <li>• Key Features of Resettlement Plan</li> <li>• Criteria &amp; composition of APC</li> <li>• Roles and responsibilities of APC concerns of affected person both men and women related to project.</li> <li>• Impact Assessment survey</li> </ul>
2	23-05-2016	20	<ul style="list-style-type: none"> <li>• Meetings of APs and Data collection</li> <li>• Assessment of losses, socio economic survey</li> <li>• Consultation with different community members</li> <li>• Project Implementation procedure</li> <li>• Sharing of JICA Policies on resettlement</li> <li>• Meeting with Revenue Staff</li> </ul>
3	9-06-2016	14	<ul style="list-style-type: none"> <li>• Discussion on alternate options</li> <li>• Brief on GRC mechanism</li> <li>• Disclosure mechanism</li> <li>• Meeting Revenue staff for verifications of titled and non- titled</li> </ul>
4	12-06-2016	21	<ul style="list-style-type: none"> <li>• Finalization of list of APs</li> <li>• Grievance Redress procedure</li> <li>• Survey and valuation of Affected assets and inventories of APs</li> <li>• Entitlement matrix</li> </ul>

			<ul style="list-style-type: none"> <li>• Formation of APC</li> <li>• Sharing of JICA Policies on resettlement</li> </ul>
5	05-07-2016	25	<ul style="list-style-type: none"> <li>• Finalization of APs, affected assets</li> <li>• Cut off date</li> <li>• Sharing of Entitlement matrix</li> <li>• Compensation disbursement procedure and other key features of Abrivated LARP</li> </ul>
6	15-07-2016	16	<ul style="list-style-type: none"> <li>• Follow ups</li> <li>• Meeting with APs</li> <li>• Sharing of findings</li> </ul>

Along with the participatory Resettlement Field Survey, semi-structured interviews and discussions aiming at community awareness and consultations regarding the Project’s likely impacts were also held with the small groups of men and women in Chak No 201- JB, 245- JB, 299-JB and 301 JB. Two separate focus group discussion were held with the land owners and the present cultivators of land at the Grid Station site with the directly and indirectly affected persons. A total of six group discussions and consultation sessions were held with 5 groups of men and 01 group of women, wherein total number of 90 persons (80 men and 10 women) participated (Table 6.1).

The APs concerns and suggestions have been incorporated and implemented as an integral part of resettlement activities. The major concerns raised during the consultation are the adequacy and timelines of compensation payments and safety measures to be taken during the construction. In response, it is briefed that NTDC will make sure that price of land as well as crops & trees compensation amount assessed will be at the market rate and paid to the AHs, at least fifteen days prior to starting construction activities. The land owners will be asked to vacate the project site at least three months before to harvest the current crop.

The local communities’ response (awareness, perceptions and preferences) to the construction of Grid Station and other resettlement related matters are summarized as follows:

- This project will not impact on the local environment.
- Land, Crops and trees compensation should be fair and timely;
- Local skilled and unskilled labor should be used wherever possible; and
- Construction work should be completed in time.

## 6.2 Compensation Options Discussed

In addition to the focus group discussions and consultative meetings described above, the survey included a questionnaire with the direct affectees on their preferences for compensation and rehabilitation options. This information has been used to assist in determining the support measures required by AHs.

The first compensation priority of all AHs is for cash, rather than land or a combination of cash and land in this way, they can purchase land in the same locality. However, as explained previously, there is no Government land available in the vicinity.

### **6.3 LARP Disclosure**

In line with JICA's public communications policy, this Abbreviated LARP in English will also be posted on the JICA and NTDC website, while its translation in Urdu will be disclosed to the AHs, UC office, Assistant Commissioner /LAC office.

In addition, a public information booklet in Urdu, summarizing compensation provisions will be sent to all AHs .However, compensation provisions, Entitlements and unit cost of affected assets have already been communicated to AHs and APs during follow up visits.

## 7. RESETTLEMENT BUDGET AND FINANCING

### 7.1 Basis for Compensation

Compensation for projects requiring land acquisition can often differ between the borrower and JICA (and other providers of official development assistance). To comply with JICA (resettlement policy principles), rates used to compensate for lost land and assets are the replacement cost at current market value, in order to meet the policy objective of “at least” restoring people’s livelihoods and ensuring that people affected by a project are not left worse off.

According to the project’s LARF, replacement cost is the amount of cash or kind needed to replace an asset in its existing or better condition, and is the value determined as compensation for the current market price without depreciation or deduction of the costs of any transaction or for any material salvaged. The processes for establishing the rates used for this 500/220 KV Faisalabad West Grid Station and Allied Transmission Lines project followed the methodology of LARF.

### 7.2 Determining the Rates for Compensation

Based on the foregoing requirements and the LARF provisions, the methodology for assessing unit compensation values of the different items is described as follows:

- Basic annual crop compensation is valued at net farm-gate market rates. If additional crops compensation is due it will be calculated at market value minus inputs. As noted earlier, compensation for crops affected will be based on one crop for tower foundations, one for tower erection and one for stringing of the lines ; and
- Fruit trees were valued based on age and productivity category (a. seedling; b. not yet productive; c. productive). Productive fruit trees were valued at gross market value of one year’s income multiplied by the number of years needed to grow a new tree with the productive potential of the lost tree. Wood trees were valued based on type, size, and age (dimensions rather than productivity). AHs are entitled to keep the wood (as salvaged material) without any deductions from the amount of compensation.

Cropping Season	Affected Crop		Average Crop Income per Unit Area (Rs.)		
	No.	Name	Area (acres)	Rate / acre*	Total Income
Annual Crop		Sugarcane	44.5	250,000	11,125,000
Rabi (Autumn-Winter)		Wheat	127.0	52,000	6,604,000
		Fodder	102.5	80,000	8,200,000
Kharif (Spring-Summer)		Maize	98	52,000	5,096,000
		Maize	98	52,000	5,096,000
Sum Total Crop		All Crops	470		36,121,000

Income				
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T

he valuation survey registered current replacement values of Agriculture lands, built-up structures, and in market sale values of agricultural crops, and fruit and wood trees. It is based on AH and community consultation and local government agencies. The results of Resettlement Field Survey (RFS) and compensation assessments for the affected crops and trees are provided in the following tables. The rates so collected were also approved from the District LAC of Chiniot and T.T.Singh districts.

### 7.3 Crops and Trees Compensation for Transmission Line and Grid Station

#### 7.3.1 Assessment of Crop Compensation for Tower installation

A total of 112 towers will be installed on private land and will cause damage to crops or income from crops to 112 affected households/ land owners. With an average of 0.225 Acre tower construction will cause damage to around 25 acres of land for one year period. The crop compensation for tower construction (two tiers) is assessed at Rs. 3.141 million (table 7.2).

Table 8.2: Lot-2 Assessment of Crop Compensation for New Towers (Jam-RYK 500 kV TL)						
Cropping Season	Affected Crop	No. of Towers*	Affected Crop Area (acre)/per tower **	No. of Crops Affected	Compensation Assessed	
					Rate (Rs./acre)	Total Amount (Rs)
Annual Crop	Sugarcane***	29	0.617	1	250,000	4,473,250
Rabi Crops	Wheat	388	0.617	2	45,000	21,545,640
(993 Towers)	Mustard	8	0.617	2	44,000	434,368
Kharif Crops	Cotton	0	0.617	1	184,800	0
(993 Towers)	Rice	0	0.617	1	72,000	0
Total:		425				26,453,258

#### 7.3.2 Assessment of Crop Compensation for Stringing

The stringing activity will be completed in one cropping season but will affect larger area along the TL. The activity will cause damage to 248.6 acres of seasonal crops (Sugercane, wheat, maize and fodder). The crop compensation for stringing activity tower ( 3<sup>rd</sup> tiers) is assessed at Rs. 21.232 million (table 7.3).

Table 7.3: 220 KV FSD West TL Length and Area of Farmland Affected by TL Corridor				
Cropping Season	Affected Crop	Affected Crop (Acres)	Compensation Assessed	
			Rate/Acre (Rs)	Total Amount
Annual Crop	Sugarcane	32.42	250,000	8107500
Rabi Crops	Wheat	71.21	52,000	3702920

	Fodder	67.31	80,000	5384800
Kharif Crops	Maize	77.64	52,000	4037280
	Fodder	0	0	0
<b>Total:</b>		<b>248.6</b>		<b>21,232,500</b>

### 7.3.3 Assessment of Compensation for Wood and Fruit Trees

The construction of towers, stringing and construction of grid station will combine affect or cause to withdraw ownership of 576 trees of which 473 are wood trees and 103 fruit trees. Fruit trees were valued based on age and productivity category (a. seedling; b. not yet productive; c. productive). Wood trees were valued based on type, size, and age (dimensions rather than productivity). AHs are entitled to keep the wood (as salvaged material) without any deductions from the amount of compensation. Total value of trees is assessed at Rs. 4.899 million of which would trees will be worth of Rs.4.267 million and Rs. 0.632 million for fruit trees.

<b>Table 7.4: Number and Compensation of Affected Fruit Trees (220 kV TL)</b>					
No.	Name of Affected Fruit Tree	Maturity Level	Number of	Average Rate	Compensation Amount (Rs.)
			Fruit Trees	(Rs./Tree)	
1	Mango	Immature	4	6,000	24,000
		Mature-1	3	10,000	30,000
		Mature-2	4	15,000	60,000
<b>Sub-total (b):Mango</b>			<b>11</b>	<b>-</b>	<b>114,000</b>
2	Orange	Immature	11	3,000	33,000
		Mature-1	14	7,000	91,000
		Mature-2	6	8,000	48,000
<b>Sub-total (c): Orange</b>			<b>31</b>	<b>-</b>	<b>172,000</b>
3	Guava	Immature	10	3000	30,000
		Mature-1	13	5000	65,000
		Mature-2	15	8000	130,000
<b>Sub-total (d): Guava</b>			<b>38</b>	<b>-</b>	<b>205,000</b>
4	Others (Jaman)	Immature	5	3,000	15,000
		Mature-1	9	6,000	54,000
		Mature-2	9	8,000	72,000
<b>Sub-total (e): Others</b>			<b>18</b>	<b>-</b>	<b>141,000</b>
<b>TOTAL:</b>			<b>103</b>	<b>-</b>	<b>632,000</b>

<b>Table 7.5: Number and Compensation of Affected Wood Trees (220 kV TL)</b>					
No.	Name of Affected Wood Tree	Relative Size	Number of Wood Trees	Average Rate (Rs./Tree)	Compensation Amount (Rs.)
1	Shisham (Sisso)	Small	60	2,500	150,000



		Medium	98	8,000	784,000
		Large	99	15,000	1485,000
<b>Sub-total (a): Shisham</b>			<b>257</b>		<b>2,419,000</b>
2	Kikar (Acasia)	Small	30	2,500	75000
		Medium	67	8,000	536000
		Large	53	15,000	795000
<b>Sub-total (b): Kikar</b>			<b>150</b>		<b>1,406,000</b>
3	Poplar/Eucalypts	Small	12	2,500	30000
		Medium	18	5,000	90000
		Large	15	10,000	150000
<b>Sub-total (c): Poplar/Eucalypts</b>			<b>45</b>		<b>270,000</b>
4	Neem	Small	3	2,000	6000
		Medium	10	7,000	70000
		Large	8	12,000	96,000
<b>Sub-total (d): Neem</b>			<b>21</b>		<b>172000</b>
<b>TOTAL:</b>			<b>473</b>		<b>4,267,000</b>

### 7.3.4 Assessment of Compensation for Residential Infrastructure

A total of 57 different residential infrastructure need to be removed or the project has to design some alternatives to minimize the impact. These residential infrastructure falls within the proposed RoW of some 40 km long transmission line as well as in the proposed land for grid station. The valuation was made at the current market rates for construction of pacca and kacha residential or animal sheds. As per the table 7.6 below a total of Rs. 8.464 million is assessed as compensation for residential structures.

7.6 Impact of TL and GS on Residential Infrastructure						
Nature of Construction	Size	Covered Area (sft)	No of Rooms	Total Covered Area	Rate (Sq.Ft)	Total Cost (Rs)
Pakka (Gray Structure)	12*14	168	20	3360	1050	3,528,000
	12*16	192	3	576	1050	604,800
	14*16	224	2	448	1050	470,400
	10*12	120	7	840	1050	882,000
	12*20	240	4	960	1050	1,008,000
Washrooms	6*6	168	3	504	1050	529,200
Pacca Boundary Wall	8*50 rft	400	3	1200	320	384,000
Kacha	15*10	150	1	400	450	180,000
	12*14	168	6	1008	450	453,600
	14*16	224	1	224	450	100,800
	10*12	120	6	720	450	324,000
<b>Total</b>			<b>56</b>			<b>8,464,800</b>

#### 7.4 Valuation of Land for Grid Station

To determine the market value of the land to be acquired under the Land Acquisition Act, it is incumbent to involve the District Price Assessment Committee (DPAC) and District Collector to process the land acquisition. The Land Acquisition process in this regard is at very initial stage and the DPAC has not yet been formed. The LARP preparation team held separate consultation meetings with the local community, the Grid Station APs and the persons purchased agriculture land along Painsara –Bhawana-Road. Since these purchase deals were in small parcels of land and different modes of payment. With reference to the Grid Station land, the consultations ranged the land price between Rs. 1.4 million to 1.6 million per acres.

With an average of Rs.1.5 million per acre the total cost for the acquisition of this land at current market rate is estimated at Rs. 74,250 million for 49.5 Acres. The LAA 1894 requires 15% Compulsory Acquisition Charges in addition to the approved price of land by the BOR. The total compensation cost is assessed amount to Rs.85.387 million

#### 7.5 Budget for Land and Asset Acquisition

This LARP includes the cost of compensation, rehabilitation and other restoration/assistance entitlements of the private AHs, a breakdown by structures, crops and trees and other associated costs. The cost estimate has been based on the rates derived through consultation and survey as described in the above sections. The rates for compensation and cash entitlements for rehabilitation as well as allowances payable to AHs will be adjusted with the actual annual inflation rate. NTDC, with the LACs, will determine the annual inflation rates and adjust all cash entitlements. The salient features of this budget for LARP are:

- Total budget for the land acquisition for the grid station and crop and rehabilitation of infrastructure will be Rs. 135.436 million.
- Around 49.5 acres of land for grid station will cost Rs.85.38 million or 70% of the total cost.
- The NTDC will pay a total of Rs. 37.736 million (30%) as compensation for the affected crops and trees and rehabilitation of residential and other infrastructure
- A contingency of 10 per cent (Rs. 12.33 million) of the subtotal of the compensation and administrative charges has been included in the cost estimate.
- Funds for compensation and implementation of the LARP will be from the Government (counterpart funds) via NTDC, budgetary requirements for economic restoration

<b>Table 9.6: LARP Budget for FSD 500/220 kV TL &amp; GS Project</b>					
No.	Resettlement Activity	No.	Unit	Rs./Unit	Total Rs.
<b>A</b>	<b>Land Acquisition Cost for Grid Station</b>				
A.1	Total Land to be acquired for 500/220 KV Faisalabad West Grid Station	49.5	-	1,500,000	74,250,000
A.2	LAA-Compulsory Acquisition Charges		15%		11,137,500
Total of A					<b>85387,500</b>
<b>B.</b>	<b>Crops and Trees Compensation for 220 kV TL:</b>				
<i>B.1</i>	Trees:	576	<i>tree</i>	-	<b>4,899,000</b>
<i>B.1.1</i>	Fruit Trees (Table 7.4)	103	<i>tree</i>	<i>lumpsum</i>	632,000
<i>B.1.2</i>	Wood Trees (table 7.5)	473	<i>tree</i>	<i>lumpsum</i>	4,267,000
<i>B.2</i>	Crops Compensation for :				<b>23,549,872</b>
<i>B.2.1</i>	<i>Towers (table 7.2)</i>	25	<i>Acres</i>		3,141,000
<i>B.2.2</i>	TL Corridor ( table 7.3)	259	<i>Acres</i>		21,232,500
<i>B.3</i>	Rehab. of infrastructure (table 7.6)				<b>8,464,800</b>
Total of B					<b>37736,500</b>
<b>Total A+B</b>					<b>123,124,000</b>
C.	Contingency (10% of B)	0.1	<i>Lumpsum</i>		12,312,000
Total Amount (Pak. Rupees):					<b>135,436,000</b>
Total Amount (US Dollars*):					<b>12,154,600</b>

- Current US \$ exchange rate @ Rs. 106=1US\$

## **8. IMPLEMENTATION SCHEDULE**

The project will be implemented over a four to five year period, scheduled to commence upon loan approval. This LARP will be finalized after the construction schedule has been submitted. Implementation of resettlement and related activities will take place before construction commences. The Project Management Consultant has already been mobilized, who will work closely with, and assist, NTDC in all resettlement related activities.

The civil works and stringing works will be split into three packages, with one package assigned to a contractor, and all the three or four Contractors working simultaneously on their respective components/section of the TL and grid station. No contractor will be issued a notice of possession of site for any section of construction works unless NTDC has (i) satisfactorily completed, in accordance with the approved LARP and all compensation payments have been made, and (ii) ensured that the rehabilitation assistance is in place and the area required for civil works is free of all encumbrances and (iii) submitted an internal monitoring report to JICA..

The LARP implementation schedule, shown below, envisages the following sequence of activities; some of these steps will overlap in their timing and some will be repeated throughout the project schedule.

Table 8.1: Implementation Schedule for 500/22 KV Faisalabad West GS/TL

Main Activities	Tentative Date	2016				2017				Remarks -
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
Establishment of PMU	-	-	-	-	-	-	-	-	-	Already in place
Setting-up the E&SIC	-	-	-	-	-	-	-	-	-	Already in place
Project Implementation Unit (PIU) at field level	-	-	-	-	-	-	-	-	-	Already in place
Establish Grievance Redress Committee (GRC).										To be notified
Submission of draft LARP to JICA										-
Urdu translation and disclosure of LARP										-
Formation of APC at District level representing to all concerned villages										-
Payment of compensation to the APs for the loss of crops & trees and other losses.										-
Relocation of public utilities/ infrastructures (if any)										-
Date of Contract Award (expected)										-
Hiring of EMA (if required)										-
Employment to the APs in the project related jobs.										-
Full Implementation of LARP										-
EMR confirming LARP implementation										-
Redress of community complaints										Continuous activity

## 9. MONITORING AND EVALUATION

Monitoring and evaluation (M&E) are critical activities in involuntary resettlement caused by various infrastructure development projects, like this power transmission enhancement project. Monitoring involves periodic checking to ascertain whether activities are progressing as per schedule while evaluation is essentially a summing up, at the end of the project, assessment of actual achievement in comparison to those aimed at during the implementation. The Resettlement Plan implementation will be monitored both internally as well as externally.

The NTDC/PMU through ESIC will be responsible for internal monitoring through its field office. As the capacity of the ESIC is constrained with manpower and resources the implementation monitoring of Resettlements Plans may be delegated to the Resettlement specialist of the Project Implementation Consultants or JICA /NTDC may individual Consultants (social/ Resettlement Specialists) on intermittent basis. The Resettlement Specialists will provide necessary technical assistance in implementing and monitoring the resettlement activities. The ESIC-NTDC will provide M&E field teams and resources for field trips

### 9.1 Internal Monitoring

For internal monitoring of the implementation of LARP the NTDC will hire an independent consultant on intermittent basis, who will be responsible for periodic (quarterly) reporting on the status of LARP implementation to the JICA as well as NTDC. The internal independent monitor will work closely with the ESIC. NTDC will be responsible to facilitate internal monitoring activities through the ESIC and PIUs.

The Independent Consultant will submit a bi-annual Abbreviated LARP that will address indicators and benchmarks for achievement of the objectives under the resettlement program, which can be categorized as follows:

- Process indicators, which include project inputs, expenditures, staff deployment;
- Output indicators are results in terms of numbers of affected persons compensated for their affected assets (land, crops and/or trees), and,
- Impact indicators related to the long-term effect of the project on people's lives in the project-affected area.

The first two types of indicators, related to process and immediate outputs and results, will be monitored internally by ESIC. This information will be collected from the project site and assimilated in the form of a monthly progress report to assess the progress and results of LARP implementation, and adjust the work program, where necessary, in case of any delays, disputes and/or other problems. Specific activities under LARP implementation that will be monitored are the following:

- Information campaign and consultation with AHs on a continued basis;
- Status of land acquisition/purchase and payment of crop/tree compensations;

- Status of restoration of damaged community infrastructure (water pipelines, irrigation channels / watercourses, drains, roads, streets, etc.)
- Grievances redress activities

## 9.2 External Monitoring

As per requirements of JICA guidelines on environmental and social issues, the NTDC, with hire services of a firm/NGO or a qualified and experienced external monitoring expert with advice and concurrence of JICA on the Consultants selection, to verify monitoring information of project to undertake resettlement monitoring during the implementation of the Resettlement Plan. The key responsibilities of the external monitor will be assessing the overall implementation approach, process, and outcome of the resettlement plan, and providing inputs to the PMU for taking corrective actions to resolve any issues. The expert will review the status of implementation of resettlement plan in the light of the policy, principles, targets, budget and duration that had been laid down in the RP. The key tasks during external monitoring include:

- (i) Develop specific monitoring indicators for undertaking monitoring and evaluation for RP implementation including the Community Participation, consultation and disclosure;
- (ii) Review results of internal monitoring and verify claims through random checking at the field level to assess whether resettlement objectives have been met. Involve the displaced persons and community groups in assessing the impacts of resettlement for monitoring and evaluation purposes.
- (iii) Review and verify the progress in RP implementation of the project and prepare six-monthly reports for the PMU and JICA including implementation of LRP and GRM.
- (iv) Evaluate and assess the adequacy of compensation given in the PP and the livelihood opportunities and incomes as well as the quality of life of DPs after project-induced changes.
- (v) Evaluate and assess the adequacy and effectiveness of the consultation process with DPs, particularly those vulnerable, including the adequacy and effectiveness of grievance procedures and legal redress available to the affected parties, and dissemination of information about these.
- (vi) Verify the completion report prepared by PMU on payments of compensation and allowances and clearing of the sites with resettlement impacts.
- (vii) Were resettlement and rehabilitation assistance were sufficient to cover loss of income.
- (viii) Did alternate sites provided for temporary relocation of affected vendors to sustain their source of income without any formal or informal fees.
- (ix) changes in businesses restoration and income levels;
- (x) How do the AHs assess the extent to which their own living standards and livelihoods have been restored?
- (xi) communications and reactions from DPs on entitlements, resettlement and rehabilitation assistance;
- (xii) grievance procedures; recording of complaints, reporting and processing time and its redressal;



## Disclosure of Monitoring Reports

The NTDC is required to submit external monitoring reports to JICA for review and posting on the JICA web site. The monitoring reports are also disclosed on the website of NTDC. It is also required that relevant information from the monitoring reports is disclosed to the DPs promptly upon submission. The “relevant information” in this context refers to the implementation status of a Resettlement Plan, such as, information on financial progress/disbursement and progress (related to livelihood/income restoration; relocation or any information on resettlement assistance and rehabilitation, grievances; and corrective action plan,). These issues are of direct relevance to the displaced persons, which also have the elements of participatory monitoring.

## Evaluation of RP Implementation and Management of Social Safeguard Issues

The external monitoring firm/NGO/individual expert will conduct evaluation of overall RP implementation after its completion. Evaluation is summing up of an assessment of whether those activities planned actually achieved their intended objectives. An assessment of resettlement outcomes is measured against baseline conditions. The evaluation exercise assesses resettlement efficacy, effectiveness, impact, and sustainability, drawing lessons to guide future resettlement planning. The evaluation will provide gender disaggregated information and concentrates on following parameters:

- Efficacy of mechanisms and indicators for internal and external monitoring;
- Mechanism used for disclosure of information, consultation and participation of DPs;
- Effectiveness and efficiency of PMU in RP Implementation;
- Assessment of the resettlement efficiency, effectiveness, impact and sustainability for drawing lessons for future resettlement policy formulation and planning.
- Evaluation of adequacy of compensation given to DPs and livelihood opportunities and incomes as well as the quality of life of DPs of project-induced changes.
- Evaluation and assessment of the adequacy and effectiveness of the consultative process with DPs, particularly those vulnerable, including the adequacy and effectiveness of livelihood restoration plan, grievance procedures and legal redress available to the affected parties, and dissemination of information about these.
- Institutional arrangements; and
- Level of satisfaction of DPs in the post resettlement period.

### Evaluation Report:

The firm/NGO/individual, engage for assessment and evaluation, will present the findings of the study in the form of a report to NTDC and JICA.

### Provision of Budget for Internal and External Monitoring and Evaluation

A provision of Rs.1 Million, lump sum has been kept for this activity in the social / resettlement budget. TORs for External Monitor and Evaluation will be provided by the detailed design resettlement specialist and annexed it with the updated version of this RP.

### 9.3 Indicators for Monitoring and Evaluation

The following will be considered as the basis for indicators in monitoring and evaluation of the project's LARP:

- Socio-economic conditions of the AHs in the post-resettlement period;
- Communications and reactions from AHs on entitlements, compensation, options, alternative developments and relocation timetables etc.;
- Changes in housing and income levels;
- Grievance procedures;
- Disbursement of compensation; and
- Level of satisfaction of AHs in the post resettlement period.

### 9.4 Resettlement Database

All information concerning resettlement issues related to land acquisition, socio-economic information of the acquired land; inventory of crop and tree losses by individual AHs, compensation and entitlements and payments will be collected by ESIC and the Consultants through their concerned field offices and computerized by ESIC at PMU-NTDC office in Lahore. This database will form the basis of information for implementation, monitoring and reporting purposes and facilitate efficient resettlement management.

### 9.5 Reporting Requirements

The ESIC is responsible for supervision and implementation of LARP will prepare periodic progress reports on resettlement activities and submit them to the JICA for review. The Resettlement Specialist will also monitor LARP implementation independently and submit quarterly reports to PMU, NTDC and JICA. These quarterly reports will also highlight the bottlenecks and recommend ways and means to improve such problematic situations. The external Consultant will submit periodic reports and determine whether or not resettlement goals have been achieved, more importantly whether livelihoods and living standards have been restored/enhanced and suggest suitable recommendations for improvement.

## **Volume II: Appendices**

- Annex-1: Transmission Line Layout
- Annex-2: Tower-Line Segment by Affected Persons, Crops, Trees & Infrastructure
- Annex-3: Distribution of Grid Station Land by Land Owners & Cultivators
- Annex-4: Public and Private Infrastructure under Right of Way
- Annex-5: Socio-Economic Survey Questionnaire