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Power Transmission Enhancement Program – Pakistan MFF Tranche 2

Sub-project Number 01

New Okara 220 kV Sub-Station Transmission Line (Double Circuit Twin Lines - Incoming and Outgoing)

Short Land Acquisition and Resettlement Plan

National Transmission and Dispatch Company (NTDC)
GOVERNMENT OF PAKISTAN

November 2007

[Okara LARP FINAL 291107 JEAN-LFB](#)

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Abbreviations

ADB	Asian Development Bank
AHs	Affected Households <u>(or Family)</u>
APs	Affected Persons <u>(Individual persons)</u>
CBC	Citizen Community Board
CBP	Community Based Organization
Chak	Hydraulic Village (inhabited by Settler-Farmers with Land Titles in a Canal Command Area)
RFS	Resettlement Field Surveys
DOR	District Officer Revenues
EHV	Extra-High Voltage (NTDC: Construction and O&M of Sub-stations & Transmission Lines)
EMA	External Monitoring Agency
GRC	Grievance Redress Committee
GSC	Grid System Construction (Sub-Division of EHV-NTDC: GS Construction/Augmentation)
GSO	Sub-station Operation (Sub-Division of EHV-NTDC: GS Operations & Maintenance)
IPDF	Indigenous Peoples Development Framework
IPDP	Indigenous Peoples Development Plan
<i>kanal</i>	unit of land measurement 1 <i>kanal</i> = 20 <i>marlas</i> (8 <i>kanal</i> = 1 acre)
LAA	Land Acquisition Act, 1894 (amended)
LAC	Land Acquisition Collector
LACC	Land Acquisition Coordination Committee
LARF	Land Acquisition and Resettlement Framework
LARP	Land Acquisition and Resettlement Plan
LARU	Land Acquisition and Resettlement Unit (NTDC)
LASC	Land Acquisition Steering Committee
<i>marla</i>	unit of land measurement 1 <i>marla</i> = 225 sq. ft in urban areas and 272 sq. ft in rural areas
MOWP	Ministry of Power and Water
MRM	Management Review Meeting
NGO	Non-governmental organization
NTDC	National Transmission and Dispatch Company
PD	Project Director of NTDC
PIB	Public Information Booklet
PMU	Project Management Unit
PPTA	Preparatory project technical assistance
RFS	Resettlement field survey
ROW	Right-of-way
Rs.	Pakistani rupees (currency) <u>Rs 60 = US\$1.00</u>
SLARP	Short Land Acquisition and Resettlement Plan
SST	Site Selection Board
TOR	Terms of Reference
WAPDA	Water and Power Development Authority

Definition of Terms

Affected Persons (APs)	mean all the people affected by the project through land acquisition, relocation, or loss of incomes and includes any person, household (sometimes referred to as project affected family or affected household [AH]), firms, or public or private institutions. AHs/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.
Compensation	means payment in cash or kind for an asset to be acquired or affected by a project at replacement cost at current market value.
Cut-off-date	means the date after which people will NOT be considered eligible for compensation i.e. they are not included in the list of AHs as defined by the census. Normally, the cut-off date is the date of the resettlement surveys.
Encroachers	mean those people who move into the project area after the cut-off date and are therefore not eligible for compensation or other rehabilitation measures provided by the project.
Entitlement	means the range of measures comprising cash or kind compensation, relocation cost, income rehabilitation assistance, transfer assistance, income substitution, and relocation which are due to /business restoration which are due to AHs, depending on the type and degree nature of their losses, to restore their social and economic base.
Land acquisition	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 that agency, for public purposes, in return for fair compensation. The land acquisition and resettlement plan is known as LARP.
Non-titled	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. ADB's policy explicitly states that such people cannot be denied compensation.
Poor	means those falling below the official national poverty line (equivalent to 2,350 calories per day) of Rs 848.79 per person per month (2004).
Replacement cost	means the method of valuing assets to replace the loss at current market value, or its nearest equivalent, and is the amount of cash or kind needed to replace an asset in its existing condition, without deduction of transaction costs or for any material salvaged.
Resettlement Field Surveys	means the detailed inventory of losses that is completed after detailed design and marking of project boundaries on the ground and includes socioeconomic data on the affected households/families, and stakeholder consultations.
Sharecropper	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 the crop or harvest.
Significant impact	means 200 people or more will experience major impacts, which are defined as; (i) being physically displaced from housing, or (ii) losing ten per cent or more of their productive assets (income generating).
Vulnerable people	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

1. **The Subproject and Its Impacts.** The Okara subproject (the subproject) to be implemented under Tranche 2 of the NTDC's Power Transmission Enhancement Program (the program) includes the construction of a new 220kV Sub-Station in Okara District (Punjab) and 10.5 km of transmission lines. The two lines will pass through four villages, namely, Chak1 No. 52/2-L; Chak No. 50/2-L; Chak No. 49/2-L and Chak No. 5A/4-L. A new 220kV sub-station will be constructed on 16 ha of a large and barren piece of land located about 4 km from Okara town, near Chak No. 49/2-L, off the Okara–Depalpur Road. This land is owned by the Provincial Government of Punjab and is not used by local communities. No resettlement impacts will occur on this sub-station component. The two transmission lines will involve the construction of 33 towers, of which 29 will be located on private farmland, and four towers (two towers of each line) will be constructed on government land near the sub-station site. No land will be acquired permanently for the transmission lines, their impacts will be limited to loss of agricultural crops and trees in their 30m wide corridors. The resettlement field surveys (RFS) undertaken identified 59 affected households (AHs) with a total of 835 affected persons (APs) experiencing the loss of agricultural crops and 321 wood trees (no fruit trees were found as affected).

2. **Compensation Eligibility and Entitlements.** In accordance with this minor impact a Short LARP has been prepared for this subproject. Compensation and rehabilitation for the subproject's impacts will be provided in accordance with the following entitlements matrix (Table 1).

Table 1: Compensation Eligibility and Entitlements Matrix

Asset	Specification	Affected People	Compensation Entitlements
Arable Land	Access is not restricted and existing or current land use will remain unchanged	Farmer/Titleholder	No Land compensation provided that land is rehabilitated/restored to former quality following completion of works. Compensation, in cash, for all damaged crops and trees as per item below
		Leaseholder (registered or not)	No Land compensation provided that the land is rehabilitated/restored to former quality following completion of works. Compensation, in cash, for all damaged crops and trees as per item below
		Sharecroppers (registered or not)	Compensation, in cash or kind, for all damaged crops/trees as per item below
		Agricultural workers	Compensation, in cash or kind, for all damaged crops/trees as per item below
		Squatters	Compensation, in cash or kind, for all damaged crops/trees as per item below
Arable Land	All adverse effects on land use independent of severity of impact	Farmer/Titleholder	Land for land compensation with plots of equal value and productivity to the plots lost; or cash for affected land at replacement cost based on market value a plus 15% compulsory acquisition surcharge and free of taxes, registration, and transfer costs
		Leaseholder (registered or not)	Renewal of lease in plots of equal value/productivity of plots lost, or Cash equivalent to market value of gross yield of affected land for the remaining lease years (up to a maximum of 3 years).
		Sharecroppers (registered or not)	Cash compensation equal to market value of lost harvest share once (temporary impact) or twice (permanent impact)

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¹ "Chak" is a hydraulic village inhabited by settler-farmers with land tiles, organized by flow of main canals, constructed under canals development program of British Government in combined India during the late-19th and early-20th centuries.

Power Transmission Enhancement Program

Asset	Specification	Affected People	Compensation Entitlements
Arable Land	All adverse effects on land use independent of severity of impact	Agricultural workers	Cash indemnity equal to salary (including portions in kind) for remaining part of agricultural year.
		Squatters	1 rehabilitation allowance equal to market value of 1 gross harvest (additional to crop compensation) for land use loss.
Arable Land	Additional for severe impacts (>10% of land loss)	Farmer/Titleholder Leaseholder	1 severe impact allowance equal to market value of gross harvest of affected land for 1 year (inclusive of winter and summer crop and additional to standard crop compensation)
		Sharecroppers (registered or not)	1 severe impact allowance equal to market value of harvest share (additional to standard crop compensation)
		Squatters	1 severe impact allowance equal to market value of gross harvest of the affected land for 1 year (inclusive of winter and summer crop and additional to standard crop compensation)
Residential/ Commercial Land		Titleholder	Land x land through provision of plots comparable in value/location to plot lost; or cash for affected land at full replacement cost free of taxes, registration, transfer costs plus 15% compulsory acquisition surcharge.
		Renter/Leaseholder	1-3 months allowance
		Squatters	Accommodation in a government resettlement area or a self-relocation allowance
Houses and Structures		All relevant APs (including squatters)	Cash compensation at replacement rate for affected structure/other fixed assets free of salvaged materials, depreciation or transaction costs. For partial impacts full cash assistance to restore remaining structure.
Crops	Crops affected	All APs (also squatters)	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. All other crop losses will be compensated at market rates based on actual losses.
Trees	Trees affected	All APs also squatters)	Cash compensation shall reflect income replacement
Business Employment	Loss of business or employment	All APs (including squatters)	Business owner: (i) Cash compensation equal to 1 year income, if loss permanent; (ii) cash compensation for the period of business interruption, if loss is temporary. Worker/employee: lost wages indemnity for the business interruption period up to a 3 months maximum.
Relocation	Transport, transition costs	All APs so affected	Provision of sufficient allowance to cover transport expenses and livelihood expenses for one month.
Community			Rehabilitation/substitution of affected structures/utilities (i.e. mosques, roads, schools etc.
Vulnerable AP		AP below poverty line	Employment priority in project-related jobs.

3. **Significance of Impact.** As there is no restriction of access to, or use of, land, there will be no permanent loss of land. No houses or shops nor any community structures will be affected. Therefore there are no AHs that will experience significant impacts.

4. **Indigenous People Issues.** All AHs are Muslim and ethnically Punjabis. There are neither tribal nor minority people amongst the AHs. The ADB's *Policy on Indigenous People*, as specified in the Indigenous Peoples Development Framework (IPDF) prepared for the program is not triggered, and therefore neither an IPDP nor special action is required for this subproject.

5. **Participatory Land Acquisition Process.** The program's LARF has been translated into Urdu and disclosed according to ADB's public communications policy, it has also been uploaded to ADB's website. For the preparation of this LARP, consultation has been undertaken, on behalf of NTDC, through a series of meetings with local government agencies, AHs, as well as wider community group meetings of both men and women. The resettlement field survey (RFS) was a participatory process, with the head of household assisting in the identification and calculation of losses. Further consultation will be required during the implementation of this Short LARP.

6. **Grievance 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.

7. **Cost of Plan.** The budget has been established using the rates derived through consultation. The costs for compensation for the 59 AHs and external monitoring (including the administration charge of 10% and a contingency of 10%) are Rs. 5.28 million (US\$ 87,963). This is inclusive of the cost of 16 ha of land to be purchased from the government for the new sub-station.

Table 2: Cost of Okara LARP

Item	Rs	US\$
Crop and tree compensation + land rehab.	2,243,113	37,385
Administration costs	1,948,623	32,477
External monitoring	300,000	5,000
Subtotal	4,491,735	74,862
Contingency (15%)	786,054	13,101
Total	5,277,789	87,963

1. INTRODUCTION

1.1 Background

1. The Government of Pakistan had requested (since approved and loan agreement signed in January 2007) financing from Asian Development Bank (ADB) for implementing the Power Transmission Enhancement Investment Program (the program) to be executed through a Multi-tranche Financial Facility (MFF) divided into four tranches and with the Ministry of Water and Power and the National Transmission and Dispatch Company (NTDC) as the Executing Agency (EA) and the Implementing Agency (IA) respectively. Each tranche will constitute a project which, in turn, will be divided into several subprojects involving the construction/upgrading of substations and installation of transmission lines.

2. This Land Acquisition and Resettlement Plan (LARP) for the New Okara 220kV substation and 10.5 km long 220 kV incoming/outgoing double circuit transmission lines (the subproject), has been prepared by NTDC to fit the Land Acquisition and Resettlement Framework (LARF) prepared for the program as a whole. As such the subproject will have to fit the following land acquisition and resettlement (LAR)-related implementation conditions:

- The signing of contracts awards for the subproject's civil works will be contingent to the preparation of a LARP fitting the LARF and relevant ADB policies; and,
- ADB issuance of notice to proceed for the implementation of the subproject's civil works will be contingent to the full implementation of the compensation and rehabilitation programs detailed in this LARP.

3. This LARP is based on final line alignments and tower positions and fully fits the provisions of the LARF already prepared. As required by the LAR-related conditionalities for the program, the LARF has been reviewed but it was not modified as the subprojects under tranche 2 require the same LAR approach as the subprojects under tranche 1.

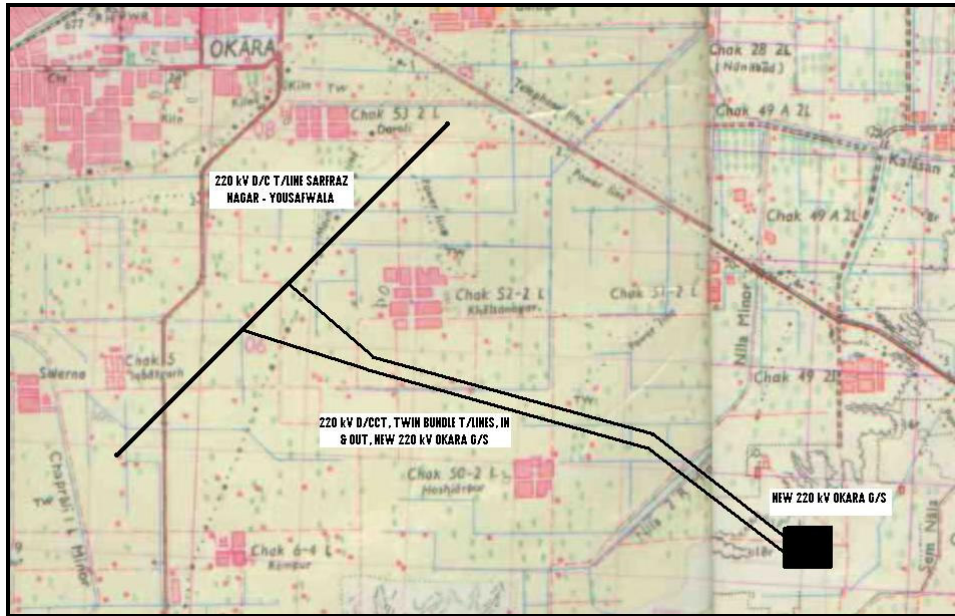
4. As noted in the LARF and based on OM section F2/OP & BP (2003) when impacts are considered severe [>200 AP resettled or suffering $>10\%$ income losses], a subproject is classified as category "A" and a full LARP is to be prepared. Conversely, when losses are non-severe [<200 AP resettled or suffering $<10\%$ income losses], a subproject is classified as category "B" and only a short LARP is to be prepared. Due to the number of people affected (59 AHs/835 persons) and impact magnitude (minor only), this document has been prepared following the Short LARP format.

1.2 Description of the Subproject

5. The subproject will be located at $74^{\circ}16'E$ and $31^{\circ}26'N$ in Okara district, Punjab, as shown on Figure 1.1. The subproject will involve the installation of one 220kV outdoor substation that will be known as "Okara New 220kV Grid Substation" and the incoming and outgoing 220 kV transmission lines.

6. Okara and its neighboring towns form a load center where the demand for electrical energy is rapidly growing. This area lies between Lahore and Sahiwal, and its electricity supply is managed by the distribution company Lahore Electricity Supply Company (LESCO) whose average annual load growth is about 8%. The load from Okara and its neighboring area is supplied through sub-transmission network of 132 kV, which is fed from two sources; the 220/132 kV sub-station at Yusufwala (Sahiwal) and 220/132 kV sub-stations at Sarfraznagar (near Lahore).

Figure 1.1: Location and Layout of Okara 220kV Subproject



7. The existing capacity of Yousufwala is 3 x 160 MVA and its peak loading during 2005-2006 was recorded as 485 MVA, therefore at peak load conditions the existing three transformers were operating beyond their capacity and safety rating. In addition, with of one of the transformers at Yousufwala, the remaining transformers were subjected to an unacceptable overloading.

8. Therefore the proposed subproject will enhance the capacity to 4x160 MVA by adding a fourth transformer of 160 MVA under the program's first tranche and is scheduled to be commissioned in 2007-08. After the addition of the fourth transformer, it is intended to operate two parallel pairs of transformers in order to avoid excessive short circuit levels at Yousafwala. In conclusion, the Okara subproject (220/132 kV substation with 3x250 MVA transformers) will provide relief to the existing 220/132 kV substations at Yousufwala and Sarfraznagar.

9. The substation will be constructed on 16 ha of state owned land that is currently barren and will be acquired from the government. The site is located near Chak No. 49/2-L, off the Okara – Depalpur Road. During the RFS, it was confirmed by local communities that nobody is using the land because it is not fertile and produces only poor vegetation. As a result farmers keep their livestock (water buffaloes), which are stall-fed and not open-grazed, at home. However, for the purposes of further protection against encroachers, NTDC has clearly marked the site limits and has appointed a security guard to guard both the substation site and the corridor of the two transmission lines. There will be approximately 10km of double conductor 220kv dual circuit transmission lines to connect to the Sarfaraz Nagar-Sahiwal 220kv transmission line located some 5km to the west. The transmission lines include a 5.2km long incoming line (Line A) and a 5.3km long outgoing line (Line B). The lines will be supported by 33 towers. The transmission lines traverse an entirely rural area and will not require any permanent land acquisition, instead farmers will be compensated for lost crops during tower construction and for tree cutting or removal for the stringing of the power cables.

10. This subproject construction of a new 220kV sub-station together with associated 220kV double circuit transmission lines. The 220kV equipment will be installed on newly acquired land. The existing 220 kV double circuit Sarfaraz Nagar to Sahiwal transmission line will be looped in and out at Okara, where the new 220 kV sub-station is proposed to be constructed.

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11. The double circuit incoming and outgoing transmission lines will be connected to the existing 220 kV Sarfraz Nagar to Yousaf Wala transmission line passing between Chak No. 52/2-L and Chak No. 5-A/4-L to the east of the Okara Bypass. The incoming line will be taken from the existing line by constructing a new angular tower between existing Tower Nos. 87 and 88, and the outgoing line will be reconnected to the existing line between its existing Tower Nos. 89 and 90 by constructing another angular tower. As a result, the existing Tower Nos. 88 and 89 of the Sarfraz Nagar – Yousaf Wala transmission line will be become redundant and thus demolished upon completion of this subproject. The numbering of the towers on each of the new lines will commence at the existing 220 kV line and finish at the proposed new sub-station.

12. The estimated cost of the planned works is US\$32.1 million.

2. PROJECT COMPENSATION AND REHABILITATION FRAMEWORK

13. This section compares the Pakistani laws and regulations on land acquisition and resettlement with requirements of the ADB Policy on Involuntary Resettlement and details summarizes the main components of the policy framework prepared specifically for the project to ensure that ADB's policy on involuntary resettlement is complied with.

2.1 Pakistan's Law and Regulations on Land Acquisition & Resettlement

14. 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 and its Implementation Rules require 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 5-3 years average registered land sale rates, though, in several recent cases the median rate over the past year, or even the current rates, have been applied. Due to widespread land undervaluation by the Revenue Department, current market rates are now frequently used with an added 15 per cent Compulsory Acquisition Surcharge as provided in the LAA.

15. Based on the LAA, only legal owners and tenants registered with the Land Revenue Department or possessing formal lease agreements, are eligible for compensation or livelihood support. The rights of the non-titled, are however addressed under the 1986 Punjab Jinnah Abadis for Non-proprietors in Rural Areas Act which recognize to squatters the 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. Projects such as Chotiari Dam, Ghazi Barotha Hydropower, and National Highways Improvement, have awarded compensation and assistance to unregistered tenants and other AHs such as sharecroppers/squatters. It is also noted that the LAA does not automatically mandate for specific rehabilitation/assistance provisions benefiting the poor, vulnerable groups, or severely affected AHs, nor does it automatically provide for rehabilitation of income/livelihood losses or resettlement costs. This however it is often done in many projects in form of ad hoc arrangements based on negotiations between a specific EA and the AHs.

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16. As noted above, exceptions to the rule are intrinsic to the fact that the law is elastic and is broadly interpreted at provincial level depending on operational requirements, local needs, and socio-economic circumstances. Recourse is often taken to ad hoc arrangements, agreements and understandings for resettlement in difficult situations. The above is also influenced by the fact that an amendment of the LAA has been considered necessary by the Ministry of Environment. Accordingly, a National Resettlement Policy (NRP) and a Resettlement Ordinance have been drafted to broaden LAA provisions and current practices so as to widen the scope of eligibility and tightening up loopholes (i.e. regarding definitions of malpractices, cut-off dates, political influence on routing, etc.). But both these documents are still awaiting government's approval.

2.2 ADB's Involuntary Resettlement Policy

17. The ADB Policy on Involuntary Resettlement is based on the following principles:

- Involuntary resettlement is to be avoided or at least minimized.
- Compensation must ensure maintenance of AHs' pre-project living standards.
- Compensation is required for any AH/AP who, as a result of a project, has their access to, or use of, land restricted.

- AHs should be fully informed and consulted on LAR compensation options.
- AHs' socio-cultural institutions should be supported/used as much as possible.
- Compensation will be carried out with equal consideration of women and men.
- Lack of formal legal land title should not be a hindrance to rehabilitation.
- Particular attention should be paid to households headed by women and other vulnerable groups, such as indigenous people and ethnic minorities, and appropriate assistance should be provided to help them improve their status.
- LAR should be conceived and executed as a part of the project, and the full costs of compensation should be included in project costs and benefits.
- Compensation/rehabilitation assistance will be paid prior to ground leveling and demolition of the affected structures.

2.3 Comparison of Pakistani LAA and ADB Resettlement Policy

18. The following Table 2.1 outlines the differences between Pakistani Law and the ADB Resettlement Policy:

Table 2.1: Pakistan and ADB Land Acquisition Policies

Pakistani Land Acquisition Act	ADB Involuntary Resettlement Policy
Land compensation only for titled landowners or holders of customary rights.	Lack of title should not be a bar to compensation and/or rehabilitation. Non-title-holders are to be rehabilitated.
Crop losses compensation provided only to registered landowners and lease/sharecrop tenants (Non-registered are often deprived).	Crop compensation are provided to landowners and sharecrop/lease tenants according to their shares whether they are registered or not
Tree losses are compensated on the basis of officially fixed rates by the Forest and Horticulture departments	Tree losses are compensated according to actual worth of affected trees based on market rates.
Land valuation based on the median registered land transfer rate over the previous 3 years.	Land valuation is to be based on current replacement (market) value.
Structures valuation based on official rates, with depreciation deducted from the gross value.	Valuation of structures based on current market value/cost of new construction of the structure
Land Acquisition Collector (LAC) is the only pre-litigation final authority to decide disputes and address complaints regarding quantification/compensation for the affected lands and other assets.	Complaints and grievances are resolved informally through community participation in the Grievance Redress Committees (GRC), local governments, NGO and/or local-level community based organizations

2.4 Remedial Measures to Bridge the Gap

19. In principle, Pakistan Law and ADB Policy adhere not only to the objective of AH compensation, but also to the objective of rehabilitation. However, Pakistan law is unclear on how rehabilitation is to be achieved and in practice the provision of rehabilitation is left to ad hoc arrangements taken by local governments and specific project proponents. To clarify these issues and reconcile eventual gaps between Pakistan Law and ADB Policy, the NTDC had prepared the Land Acquisition and Resettlement Framework (LARF) for the program², to ensure compensation at replacement cost of all items, the rehabilitation of informal settlers, and provision of subsidies or allowances for AHs that may be relocated, suffer business losses, or may be severely affected.

² The program's LARF was prepared by NTDC and endorsed and uploaded on ADB's website in October 2006.

2.5 Legislation Relevant to Land Classification

20. In terms of application of the LARF prepared for the program, identifying the type of land affected is an important step in determining eligibility for compensation for land. Jurisdiction rather than use classifies land. Rural land includes irrigated land and un-irrigated land and is governed by the Land Revenue Act (1967) which must be read in conjunction with the LAA and other legislation that may also apply, including for example the Punjab Alienation of Land Act (1900), Colonization of Government Lands Act (1912) and the various Land Reform Regulations. Rural land falls under the jurisdiction of revenue districts.

21. Land, other than rural land, is urban and including all permutations there-under such as residential, commercial, built upon and build able, and is governed by various regulations and ordinances including the People's Local Government Ordinance (1972) for each province, Cantonments Act (1924), and Land Control Act (1952). Urban land falls under the jurisdiction of municipal and local government authorities.

22. While there are broad definitions of rural and urban land in the People's Local Government Ordinances, such classifications are not immutable and have been, and are, changed by the Collector of Revenues and provincial governments over time. In general it is either the People's Local Government Ordinances or the Land Revenue Act that determines the classification of land, however there are some cases where both applies and other cases where different legislation altogether can dictate jurisdiction and classification over land. Hence there is neither a universal classification nor legislation pertaining to the land that will be potentially affected under the program.

2.6 Compensation Eligibility and Entitlements for the Project

23. Land acquisition and asset (crops, trees, etc.) compensation tasks under the program, and for this Okara subproject, will be implemented according to a compensation eligibility and entitlements framework in line with Pakistan's law/regulation and ADB Policy.

24. A summary entitlement matrix is provided in Table 2.2.

Table 2.2: Compensation Eligibility and Entitlements Matrix

Asset	Specification	Affected People	Compensation Entitlements
Arable Land	Access is not restricted and existing or current land use will remain unchanged	Farmer/Titleholder	No Land compensation provided that land is rehabilitated/restored to former quality following completion of works. Compensation, in cash, for all damaged crops and trees as per item below
		Leaseholder (registered or not)	No Land compensation provided that the land is rehabilitated/restored to former quality following completion of works. Compensation, in cash, for all damaged crops and trees as per item below
		Sharecroppers (registered or not)	Compensation, in cash or kind, for all damaged crops/trees as per item below
		Agricultural workers	Compensation, in cash or kind, for all damaged crops/trees as per item below
		Squatters	Compensation, in cash, for all damaged crops/trees as per item below
Arable Land where access is restricted and/or land use will be affected	All adverse effects on land use independent of severity of impact	Farmer/Titleholder	Land for land compensation with plots of equal value and productivity to the plots lost; or cash for affected land at replacement cost based on market value ^a plus 15% compulsory acquisition surcharge and free of taxes, registration, and transfer costs
		Leaseholder (registered or not)	Renewal of lease in plots of equal value/productivity of plots lost, or Cash equivalent to market value of gross yield of affected land for the remaining lease years (up to a maximum of 3 years).
		Sharecroppers (registered or not)	Cash compensation equal to market value of lost harvest share once (temporary impact) or twice (permanent impact)
		Agricultural workers	Cash indemnity equal to salary (including portions in kind) for remaining part of agricultural year.

Asset	Specification	Affected People	Compensation Entitlements
Arable Land where access is restricted and/or land use will be affected	All adverse effects on land use independent of severity of impact	Squatters	1 rehabilitation allowance equal to market value of 1 gross harvest (additional to crop compensation) for land use loss.
Arable Land where access is restricted and/or land use will be affected	Additional for severe impacts (10% land loss)	Farmer/Titleholder Leaseholder	1 severe impact allowance equal to market value of gross harvest of affected land for 1 year (inclusive of winter and summer crop and additional to standard crop compensation)
		Sharecroppers (registered or not)	1 severe impact allowance equal to market value of harvest share (additional to standard crop compensation)
		Squatters	1 severe impact allowance equal to market value of gross harvest of the affected land for 1 year (inclusive of winter and summer crop and additional to standard crop compensation)
Residential/ Commercial Land		Titleholder	Land x land through provision of plots comparable in value/location to plot lost; or cash for affected land at full replacement cost free of taxes, registration, transfer costs plus 15% compulsory acquisition surcharge.
		Renter/Leaseholder	1-3 months allowance
		Squatters	Accommodation in a government resettlement area or a self-relocation allowance
Houses and Structures		All relevant AHs (incl. squatters)	Cash compensation at replacement rate for affected structure/other fixed assets free of salvaged materials, depreciation or transaction costs. For partial impacts full cash assistance to restore remaining structure.
Crops	Crops affected	All AHs (incl. squatters)	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. All other crop losses will be compensated at market rates based on actual losses.
Trees	Trees affected	All AHs (incl. squatters)	Cash compensation shall reflect income replacement
Business Employment	loss of business or employment	All AHs (incl. squatters)	Business owner: (i) Cash compensation equal to 1 year income, if loss permanent; (ii) cash compensation for the period of business interruption, if loss is temporary. Worker/employee: lost wages indemnity for the business interruption period up to a 3 months maximum.
Relocation	Transport; transition costs	All AHs so affected	Provision of sufficient allowance to cover transport expenses and livelihood expenses for one month.
Community			Rehabilitation/substitution of affected structures/utilities (i.e. mosques, roads, schools etc.
Vulnerable AH		AH below poverty line	Employment priority in project-related jobs.

2.7 Eligibility

25. AHs entitled to compensation or rehabilitation provisions under the program are:

- All AHs affected by restricted access to, or use of, land whether they have legal title/traditional land rights or not;
- Tenants and sharecroppers whether registered or not;
- Owners of buildings, crops, plants, or other objects attached to the land; and
- AHs losing business, incomes and/or salaries.

26. Cut-off Date: Compensation eligibility will be limited by a cut-off date fixed by NTDC at 14th January, 2007 for this Okara 220kV Subproject, which was the last day of the resettlement field survey (RFS). AHs who settle in the affected areas and/or make changes in the land use patterns after this cut-off date will not be eligible for compensation. They will, however, be given sufficient advance notice requesting them to vacate premises/corridor and dismantle the affected structures/establishments (if any) prior to project implementation. They will be allowed to reuse their salvaged material for free and they will not be asked to pay any fine for making those change. Forced eviction will only be considered after all other efforts are exhausted.

2.8 Strategy for Compensation for Land Affected by Towers

27. Besides the amended LAA, the NTDC has adopted the Telegraph Act (1885) (as amended) for the construction and maintenance of power transmission lines. The latter Act was originally framed for the construction of telegraphic poles during the British Era and later inherited by Pakistan upon independence. This Act was subsequently adopted by WAPDA for electric poles and supply lines, and eventually passed to NTDC. However, telegraphic or electric poles cover a much smaller area of land compared with transmission towers which have the potential to affect crops and grazing shrubs. The NTDC makes utmost efforts to minimize resettlement impacts, alternatively NTDC compensates affected farmers for their crop losses.

28. Thus, based on current Pakistani Law and NTDC's practice, the land under the towers is not acquired permanently and therefore compensation is not required for land. For this Program, however, it was agreed between NTDC and ADB that the land under the tower will be acquired but would only require compensation in the case where (i) in rural areas, the tower hinders access to the land under the tower for cultivation; and/or, (ii) in urban/residential areas, the tower restricts use of the land for housing development. Based on this principle it was established that the strategy for compensation of land affected by tower construction will be different for urban/residential land (and its potential for housing development) and agricultural land. In the case of urban/residential areas, the land under towers will be considered as being permanently affected and therefore it will be acquired and compensated in full. In the case of rural areas and agricultural land, as long as the towers provide sufficient clearance to allow the continuation of crop cultivation, the land will be considered to be temporarily affected (for the duration of tower installation and stringing of the lines) and therefore will not be acquired nor compensated. However, for towers which have low-bars that would restrict the farmer's access for cultivation activities, the land will be acquired permanently and compensated for as such.

29. The construction of towers on agricultural land however will still require the provision of compensation for crops and loss of trees, for the area under the tower plus a small perimeter surrounding it (an access and working area). The area included in the perimeter has been assessed as 900 m² for 220 kV towers and 2,500 m² for 500 kV towers. Furthermore, as the construction of towers involves a 3-tier process, namely: (i) preparation of the foundation; (ii) erection of the tower; and, (iii) stringing of the power cables, and this process has the potential to affect three crops, and thus, compensation for three crops will be paid to the affected farmers.

2.9 Compensation Entitlements

30. Entitlement provisions for AHs with restricted access to, or use of, land, and income losses and rehabilitation subsidies will include provisions for such land losses, house and buildings losses, crops and trees losses, a relocation subsidy, rehabilitation measures, and a business losses allowance based on tax declarations and/or lump sums. The entitlements are detailed below:

- Agricultural land impacts will be compensated based on whether an AH's access to or use of land is restricted. For AHs whose access to, and use of agricultural land is not restricted i.e. they can continue to cultivate the land, compensation will be for removed or damaged crops and trees. For AHs whose access to, and use of, agricultural land is restricted i.e. they cannot continue to cultivate the land,

compensation will be at replacement value of land in: (i) cash at current market rates plus a 15% compulsory acquisition surcharge, or (ii) through replacement land equal in value/productivity to the plot lost. When >10% of an AH's income or agricultural land is affected, AHs (owners, leaseholders and sharecroppers) will get an additional allowance for severe impacts equal to the market value of a year's gross yield of the land lost (inclusive of both winter and summer harvests). Eventual transaction taxes/fees will be paid by NTDC or waived off by local governments. Market rates will be assessed through a survey of prevalent land prices and/or income from the lost crops and tree in the subproject areas.

- Residential/commercial land will be compensated at replacement value either (i) in the form of land for land or, (ii) cash at current market rates free of deductions for transaction costs. Renters/leaseholders will receive an allowance corresponding to a three months rent.
- Houses, buildings, structures will be compensated in cash at replacement cost free of depreciation, salvaged materials, and transaction costs deductions. The compensation will also include the cost of lost water and electricity connections.
- Crops: Cash compensation at current market rates for net harvest actually lost during one or both cropping seasons. Crop compensation will be paid both to landowners and tenants based on their lease or sharecropping agreements. For the towers, up to three crop compensation will be paid, while for the TL corridor in-between the towers, one crop compensation will be paid to the AHs.
- Trees: Cash compensation shall reflect income replacement (see below).
- Businesses: compensation for permanent business losses will be in cash for a one-year income based on tax declaration or, if unavailable, based on the official minimum salary; compensation for temporary business will be in cash covering the income of the interruption period based on tax declaration or, unavailable, official minimum salary.
- Business workers and employees: Indemnity for lost wages for the period of business interruption up to a maximum of 3 months.
- Agricultural land leaseholders, sharecroppers, and workers: Where the access to, or use of, the land is restricted; affected leaseholders will receive either a renewal of the lease in other plots or cash corresponding to the yearly yield of land lost for the remaining years of the lease up to a maximum of 3 years. Sharecroppers will receive their share of harvest at market rates (if impact is temporary) plus 1 additional crop compensation (if the land is lost permanently). Agricultural workers, with contracts to be interrupted, will get an indemnity in cash corresponding to their salary in cash and kind for the remaining part of the agricultural year (inclusive of both winter and summer crop).
- Relocation subsidy: AHs forced to relocate will receive a relocation subsidy sufficient to cover transport costs and living expenses for 1 month.
- House renters: House renters who have leased a house for residential purposes will be provided with a cash grant of 3 months' rent at the prevailing market rate in the area and will be assisted in identifying alternative accommodation.
- Community structures and public utilities: Will be fully replaced or rehabilitated so as to satisfy their pre-project functions.
- Vulnerable people livelihood: Vulnerable people (AHs below the poverty line) will be given priority in employment in project-related jobs.

2.10 Assessment of Compensation Unit Values

31. The methodology for assessing unit compensation values of different affected items is as follows:

- Land shall be valued at current replacement cost based on a land sales survey in the year before the impact survey. No deductions for taxes/transaction costs will be applied.
- Houses/buildings will be valued at replacement value based on cost of materials, type of construction, labor, transport and other construction costs. No deductions will be applied for depreciation, salvaged materials and transaction costs.
- Annual crops will be valued at net market rates at the farm gate for the first year crop. In the eventuality that more than one-year compensation is due to the AHs the crops after the first will be compensated at gross market value.
- Fruit trees will be valued based on age category (a. seedling; b. not yet productive; c. productive). Productive trees will be valued at gross market value of 1 year income x the number of years needed to grow a new tree with the productive potential of the lost tree.

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3. ASSESSMENT OF IMPACTS

3.1 Introduction

3.1.1 Resettlement Field Survey

32. As a general strategy, the identification and layout of the site and a technical drawing showing line profile with complete tower spotting have been made as pre-requisites for carrying out the resettlement field surveys (RFS). The RFS involved impact assessment by quantifying and costing the affected lands and other assets (crops, trees, etc.) through a participatory approach including inventory, socio-economic data collection, and consultation with the men and women of AHs and the affected communities.³

33. The resettlement survey team, comprising one resettlement specialist, two male and two female field surveyors, along with the technical surveyor conducted the fieldwork in the subproject area between 8th and 14th January 2007. Thus, the 14th January 2007 has been fixed as the cut-off-date for this subproject. No subsequent changes made in land use pattern or any constructions will be entertained for any compensation or assistance under this subproject. As noted in Section 1, for the purposes of further protection against encroachers, NTDC has clearly marked the site limits and has appointed a security guard to guard both the substation site and the corridor of the two transmission lines.

3.1.2 Minimization of Impacts

34. The NTDC usually takes all possible steps to safeguard against and minimize the likely adverse impacts on the local communities in the design and implementation of its power transmission enhancement subprojects, involving construction of sub-stations and transmission lines. Accordingly, the following specific actions were applied to avoid and minimize the likely resettlement impacts of this Okara 220kV Subproject:

- To avoid impacts of land acquisition on the local farming community NTDC has located the new 220kV Sub-Station on the state owned land. The selected site of an area of 16 ha is situated in the barren rangeland near Chak No. 49 which is unused by local communities (including any uses by squatters/landless).
- The alignments of the transmission lines were altered slightly at a number of places to avoid both the compact housing areas and scattered farm-houses; and, three fruit orchards, two brick kilns, three poultry farms and three schools.
- As Okara district is an intensively irrigated cash crop area and in response to the affected farmers' request, NTDC will take a special care in stringing the power cables that a maximum of 10m wide strip of the farmlands will be affected, instead the usual 30m wide strip. Thus, agricultural crop compensations will be paid for a 10m wide farmland strip falling in the transmission line corridor reaches, in between the towers. But this measure will not apply to removal of the affected trees, for which the usual 30m wide corridor of impact will be maintained.

35. As a result of the above efforts, NTDC has successfully avoided all compact housings of the four villages and other scattered built-up structures (i.e., poultry farms, fruit orchards, tube-wells, brick kilns, etc.), as well as community structures (mosques, graveyards, etc.), and none of such structures are affected by this Subproject. The transmission lines traverse only the private farmlands (including some unproductive government land), where only the agricultural crops and wood trees will be affected by the Subproject execution.

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³ Socio-economic survey findings are presented in Section 4 and Consultations and Disclosure in Section 6.

3.2 Impacts of the Substation

36. The 16 ha piece of land selected by NTDC for constructing the New 220kV Okara Sub-Station is a small part of over 300 ha large area of barren land owned by Provincial Government of Punjab. The NTDC has already initiated the process of purchasing this piece of land from the Provincial Government, against a mutually agreed upon price. This site is situated at a distance of 4 km from Okara Town, near Chak No. 49/2-L, off the Okara–Depalpur road.

The land has an extremely poor vegetation cover of short coarse grasses and bushes, but no trees, and it was reportedly severely affected by the former waterlogging and salinity problems. Although it is termed in land records as a “rangeland”, the local communities are not using it for any beneficial purposes, like animal grazing or firewood collection. Instead, the nearby communities grow a lot fodder on their farmlands which they stall-feed their livestock, mostly buffaloes and cows. As the communities are not using this land for any benefit, thus nobody will be adversely affected by the construction of the proposed sub-station there.

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3.3 Impacts of the Transmission Line

3.3.1 General Description

37. As specified in Section 2, the strategy for the compensation of land affected by tower construction differs for urban/residential land and rural (agricultural) land. In the case of urban or residential land the land under the tower will be considered as having its access permanently affected, therefore it will be acquired and compensated in full. In the case of agricultural land, provided that the towers will provide sufficient clearance to allow continued crop cultivation, the land will be considered as temporarily affected and therefore will not be acquired nor compensated. However, the construction of towers on agricultural land will still require the compensation of crops lost, and compensation will be provided not only for the area under the tower, but also for a small perimeter surrounding it. The area included in the perimeter has been assessed as 900 m² for a 220 kV tower and 2,500 m² for a 500 kV tower. Finally, transmission line construction will also affect permanently all houses/structures and trees higher than 6 m under and between towers within a 30 m corridor, as this corridor will have to be cleared for safety reasons, and any houses, structures or trees being removed will be compensated. The cultivation of crops within the corridor can continue after the stringing of the lines has taken place. During stringing operations, however, it is expected that one harvest will be lost.

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38. The new Okara 220kV sub-station will be connected to the existing 220kV Sarfraznagar – Yousafwala transmission line, passing between Chak No. 52/2-L and Chak No. 5/4-L, off the National Highway (N-5), by means of (incoming and outgoing) double circuit transmission lines totaling in length at 10.5 km. The twin lines will traverse mostly the intensively irrigated private farmlands (89%) and only partly over the uncultivated government lands (11%) by the sub-station site. No lands will be acquired permanently for these two transmission lines. However, the construction and stringing works will affect the agricultural crops and the wood trees, as provided in the following sub-section (see also Section 8: Budget and Appendix 1: RFS Data).

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39. The two transmission lines will traverse four villages and the crops and trees of a total of 59 AHs. The 10.5 km of transmission lines [Line A = 5.2 km (incoming) and Line B = 5.3 km (outgoing)] will require 33 towers. Majority of the towers are straight towers and in a few cases, to avoid or minimize impacts, angular towers will be constructed. Of the total 33 towers, 29 towers are located on private land and only four towers are located on the land owned by Provincial Government of Punjab in the vicinity of the proposed sub-station. The survey and design team has successfully avoided three villages, two brick kilns and two poultry farms by making minor alterations in the alignments of the lines and by providing angular towers.

40. The new 220kV transmission line will consist of the following two almost parallel double circuit lines:

- **Line A:** Incoming double circuit line, to be taken off from the 220kV Sarfraznagar – Yousafwala transmission line and connected to new Okara Sub-Station.
- **Line B:** Outgoing double circuit line, to be taken off from the new Okara Sub-Station and connected back to the existing 220kV transmission line.

3.3.2 Impacts of Transmission Lines

41. As shown in Table 3.1, the construction of the two transmission lines will affect a total cropped area of 110,204 m² (11.0 ha), of which 54,454 m² (5.4 ha) will be affected by Line A and 55,750 m² (5.6 ha) by Line B. Major crops grown in the subproject area are wheat (in the rabi season) and maize (in the kharif season), sugarcane, vegetables and potatoes. Okara district grows mostly cash crops for marketing in the City of Lahore, Karachi and Islamabad throughout the year.

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42. All other crops, namely the sugarcane, seasonal vegetables and potatoes are exclusively marketed. Thus, the subproject's impact assessment has been based on average income of all these crops in proportion to their respective areas covered (see Section 8: Budget).

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Table 3.1: Transmission Lines Traversing Private Farmland

Transmission Line	No. of Towers		Length of Line (m)		Area (m ²)	
	Total	Private Lands	Total	Private	Total	Private Lands
Line A (Incoming)	16	14	5,200	4,605.4	60,600	54,454
Line B (Outgoing)	17	15	5,300	4,675.0	62,800	55,750
Total (A+B):	33	29	10,500	9,280.4	123,400	110,204
Percentage:	100.0	87.9	100.0	88.4	100.0	89.3

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43. In terms of impacts on trees, the transmission lines have generally been sited to avoid crossing areas of forest or orchards, two orchards (including an area of guava trees) have been avoided by slightly shifting the transmission line route and increasing the height of the lines and use of angular, instead of straight towers. As a result, no fruit trees whether in orchards or scattered will be affected. However, some 231 wood trees found on the field boundaries could not be avoided and will, thus, require cutting and removal. Of those, 126 trees will be affected by Line A and 105 will be affected by Line B. The affected wood trees are mostly Shisham (sisso), and some kikar (acasia), eucalypts and toot (mulberry), as shown in Tables 3.2 and 3.3, below: In total the 46 AHs affected by impacts on trees will lose 231 wood trees.

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Table 3.2: Number of Affected Trees by Transmission Line

Transmission Line	No. and Type of Affected Trees				
	Shisham	Eucalyptus	Kikar	Mulberry	Total
Line A (Incoming)	58	35	21	12	126
Line B (Outgoing)	47	22	28	8	105
Total	105	57	49	20	231
<i>Percentage</i>	45.5	24.7	21.2	8.6	100.0

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Table 3.3: Number of Affected Wood Trees by Size

No.	Name of Wood Tree	Tree Size	Affected Wood Trees (No.)		
			Line A	Line B	Total
1	Shisham	Small	16	9	25
		Medium	28	32	60
		Large	14	6	20
<i>Sub-total (a): Shisham</i>			<i>58</i>	<i>47</i>	<i>105</i>
2	Eucalyptus	Small	14	8	22
		Medium	12	11	23
		Large	9	3	12
<i>Sub-total (b): Eucalyptus</i>			<i>35</i>	<i>22</i>	<i>57</i>
3	Kikar (Acasia)	Small	10	7	17
		Medium	7	19	26
		Large	4	2	6
<i>Sub-total (c): Kikar (acasia)</i>			<i>21</i>	<i>28</i>	<i>49</i>
4	Mulberry	Small	5	2	7
		Medium	6	4	10
		Large	1	2	3
<i>Sub-total (d): Mulberry</i>			<i>12</i>	<i>8</i>	<i>20</i>
TOTAL:			126	105	231

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3.3.3 Impacts of Towers

44. As stated above, the twin 220 kV transmission lines will require the construction of a total 33 towers, of which 29 towers will be located on private farmlands, and the remaining 4 towers will be located on the uncultivated government land near the planned sub-station site. No private or public land will be acquired permanently for this purpose, as none of the new towers will be constructed in an established urban or a developing housing area. As access under the towers will be maintained i.e. they will provide sufficient clearance for unhindered use by tractors and other agricultural equipment and therefore allow affected farmers to continue cultivating their lands without any restrictions.

45. The farmlands 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. The whole process is usually completed in a period of 6 to 12 months, thereby causing crop losses for up to three cropping seasons. Accordingly, cash compensation will be paid to the affected farmers for the loss of agricultural crops for three seasons.

46. For the construction and stringing of the tower, agricultural crops and wood trees on an area not only under the tower, but also in a small perimeter surrounding it as the access, working and storage areas, which is assessed at 900 m² (or 0.09 ha) per tower. Thus, the 33 towers will require temporarily a total of 29,700 m² (or 2.97 ha) of lands, of which 29 towers will affect 26,100 m² (or 2.6 ha) of private farmlands, and 4 towers will be constructed on 3,600 m² of uncultivated government land near the sub-station site. As a result, a total of 29 farming households (49.15% of 59 AHs) will be affected by the construction of the 29 towers on private lands, but nobody will be affected by the 4 towers on the uncultivated government land as it is used by nobody (Table 3.4).

Table 3.4: Impacts of Towers on Private Farmland

Transmission Line	No. of AHs	No. of Towers	Affected Area	
			m ₂	Hectares
Line A (Incoming)	14	14	12,600	1.26
Line B (Outgoing)	15	15	13,500	1.35
Totals:	28	29*	26,100	2.61

[Plus, last 4 towers on uncultivated government land (Total: 33)]

3.3.4 Other Impacts and Summary

47. There are no houses or structures affected by the towers or transmission line. There are no community property resources (land or other) nor business activities affected by the towers or transmission lines.

48. An area of 111,704 m² of crop will be affected. This is broken down into an area of 26,100 m² affected by the towers (base and perimeter) and will require three-crop compensation, and 85,604 m² affected by the stringing of the lines and will require one-crop compensation.

49. Table 3.5 below shows that in total the tower bases and their perimeters and the stringing of the lines will affect four different types of crop; 72,304 m² of wheat, 6,520 m² of potato, 9,486 m² of vegetable and some 23,664 m² of sugar cane.

Table 3.5: Area of Crop Affected by Village

Village	Area of Crop Affected (m ²)				
	Wheat	Potato	Vegetable	Sugar cane	Total
Chak 52/2-L	33,554	6,520	9,136	400	49,610
Chak 50/2-L	21,750	0	350	14,364	36,464
Chak 49/2-L	15,830	0	0	8,900	24,730
Chak 5A/4-L	900	0	0	0	900
Total	72,034	6,520	9,486	23,664	111,704

3.4 Impacts on Affected Households

3.4.1 General

50. In addition to the Provincial Government of Punjab being affected by the sub-station, the transmission lines will affect 59 AHs; 31 AHs are affected by Line A (and associated towers) and 28 AHs are affected by Line B (and associated towers), as shown in Table 3.6.

Table 3.6: Location & Number of Affected Households

Impacts on AHs	No. of AHs by Village				
	Chak 52/2-L	Chak 50/2-L	Chak 49/2-L	Chak 5A/4-L	Total
Line A (incoming) + towers	17	10	4	0	31
Line B (outgoing) + towers	16	6	5	1	28
Total towers only	8	1	0	1	10
Total towers + lines	25	15	9	0	49
Total Households	33	16	9	1	59

51. No land will be permanently acquired. In total 59 AHs are affected by crop loss as a result of tower installation and the stringing of the lines and 46 AHs being affected by removal of trees. Table 3.7 sets out the number of affected households (AHs) by impacts on crops and trees.

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Table 3.7: Number of Households Affected by Crop & Tree Loss

Village	No. of AHs losing crops	No. of AHs losing trees
Chak 52/2-L	33	21
Chak 50/2-L	16	16
Chak 49/2-L	9	9
Chak 5A/4-L	1	0
Total	59	46

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52. With the exception of four towers to be located on land owned by the Provincial Government, all land affected by the subproject's transmission lines is privately owned and operated; no communal, tribal or government owned lands are affected. None of the AHs will be affected by restricted access to or use of their agricultural land, and therefore the only impact they will experience will be loss of crops and trees (Table 3.8).

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Table 3.8: Area of Temporary Impact by Village

Village	Area of land temporarily affected (m ²)
Chak 52/2-L	49,104
Chak 50/2-L	36,964
Chak 49/2-L	24,736
Chak 5A/4-L	900
Total	111,704

3.4.2 Significance of Impacts

53. No permanent acquisition of any productive private lands, nor demolishing and relocation of any built-up structures will be involved in the implementation of this subproject. The impact of loss of crops will be minor on all 59 AHs, as all own relatively large farmers with highly fertile farmland, and no AHs will lose >10% of their total crop income (Table 3.9). The 30 m wide strips of land will be cleared of trees and acquired temporarily as a working corridor for installation of the new towers and within that a 10m wide strip as working corridor for stringing of power lines.

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54. The crops will be affected on a total of 8.4 ha of private land and 321 trees will be removed from 30m wide corridors of the transmission lines. The overall crop loss impact is considered minor with an average of 5.7% and a range from 2.4% to 7.2%, and remains consistently below 10% for all the 59 AHs.

Table 3.9: Percentage of Crop Loss by Affected Households

Transmission Line	No. of AHs	Percentage of Crop Loss (%)		
		Minimum	Maximum	Average
Line A	31	2.85	7.27	5.56
Line B	28	2.46	6.78	5.82
Total	59	2.46	7.27	5.78

55. Moreover, there are no vulnerable people among the 59 AHs, as incomes of the AHs place them above the national poverty line and most live in a joint/extended family system which serves as a safety net against external economic shocks. And finally, the overall impacts on the local communities will be negligible to minor.

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4. SOCIO-ECONOMIC PROFILE OF AFFECTED PEOPLE

4.1 Census of Affected Households

4.1.1 Field Methodology

56. The field methodology for the RFS included a 100% Census of AHs and community consultation (refer to Section 6). The survey was undertaken between 8th and 14th January 2007. The survey included questions about the socio-economic characteristics of AHs in order to obtain necessary information about their livelihoods and conditions.

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4.1.2 General Information on Affected Households

57. It should be noted that the description in this section of the LARP includes information about AHs and APs, as it is representative of both households to be affected as well as people within those households.

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58. As stated previously, there are no AHs as a result of permanent acquisition of land for the sub-station, as this is uncultivated Government land and is unused by the local communities. The incoming/outgoing double circuit transmission lines will, however, traverse private farmlands of four villages in Okara district of Punjab Province. The incoming/outgoing transmission lines will result in 59 AHs with a total population of 835 APs (see Table 4.1). The AHs will be affected through temporary land disturbance as a result of tower installation and stringing of the lines as well as loss of crops and trees as a result of that disturbance, the impacts of which have already been described in Section 3.

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Table 4.1: Affected Households & Population by Location

Village	No. of AHs	Total APs
Chak 52/2-L	33	427
Chak 50/2-L	16	237
Chak 49/2-L	9	150
Chak 5A/4-L	1	21
Total	59	835

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59. All participants in the RFS were heads of household. All 59 AHs are Muslim and ethnically Punjabi, and their language is Punjabi. In terms of social group (Table 4.2), while some trace their bloodlines to Rajput (27%) and 7% were either Pathan or Mughal, 59% stated their social group was 'other', including; Jutt (32%), Arain (20%) with Malik and Bhatti accounting for less than one per cent.

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Table 4.2: Social Group of Affected Households

Village	AHs by Social group			
	Pathan	Mughal	Rajput	Other
Chak 52/2-L	3	3	9	18
Chak 50/2-L	1	0	3	12
Chak 49/2-L	0	0	4	5
Chak 5A/4-L	0	1	0	0
Total (#59)	4	4	16	35
%	6.8	6.8	27.1	59.3

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60. None of the AHs are tribal nor minority and all land is held in private ownership (i.e. no tribal or communal ownership). Therefore the standard provisions of the LARF and this LARP are sufficient to ensure an effective compensation process and the requirements of ADB *Policy on Indigenous People* are complied with.

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61. The ADB's policy, as specified in the Indigenous Peoples Development Framework (IPDF) prepared for the program is not triggered, and therefore neither an IPDP nor special action is required for this subproject.

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4.1.3 Data on Heads of Affected Households

62. All heads of household are male, are married, and in all cases the spouse lives in the same household (i.e. none are separated).

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63. Nearly three quarters of household heads (71%) are between 41 and 60 years old, some 20% are between 61 and 75 years old, while a small proportion (8%) are young i.e. aged between 36 and 40 years. There are no elderly APs (i.e. older than 75 years old).

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64. In terms of literacy and education, 68% of RFS participants stated they are literate (can read and write in Urdu). A third of household heads have no formal education, a quarter of household heads have a primary education and 27% have a secondary education. Some 17% have attained a higher education (including vocational, business or teachers training college).

4.1.4 Data on Affected Households

65. None of the AHs are sharecroppers, nor are there any households that rent or lease agricultural land, and no households that claim ownership, or are squatters.

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66. Households in the subproject area are large, with an average size of 14 people and the largest household being made up of 21 people. As shown in Table 4.3, a fifth of households have between seven and ten members, 27% are made up of between 11 and 13 people and 29% have between 14 and 17 members, while a quarter have more than 18 people.

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Table 4.3: Size of Household

Village	Household size (no. of APs)			
	7 to 10	11 to 13	14 to 17	> 18
Chak 52/2-L	10	9	11	3
Chak 50/2-L	2	4	5	5
Chak 49/2-L	0	3	1	5
Chak 5A/4-L	0	0	0	1
Total (#59):	12	16	17	14
%	20.3	27.1	28.8	23.7

67. None of the AHs live in simple dwellings (constructed of thatch, sack, bamboo, clay or earth), all respondents stated their household lived in houses constructed of brick and concrete.

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68. As shown in Table 4.4, overall some 483 APs are engaged in waged work accounting for 58% of all APs. All APs have at least two members engaged in agriculture, which accounts for 84% of all working APs. Slightly more females than males (89% compared with 79%) are engaged in agriculture. Trade is the livelihood sector which accounts for second largest proportion of working APs with 8% overall, and these are only males (16% of working males). Small proportions of working APs are engaged in government employee (1%) or in the education or health sector (7%).

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Table 4.4: Livelihood Sector of Household Members

APs by gender	Livelihood Sector (%)			
	Gov't	Ed/Hlth	Trade	Agri
Males	1	4	16	79
Females	2	9	0	89
Total (%)	1	7	8	84

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69. As all AHs rely on farming for at least part of their income, the tenure of agricultural land is an important factor in terms of security and sustainability of livelihood. As noted above, in the RFS all participants stated they are registered land owners.

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70. Table 4.5 shows that all AHs have more than two sources of income; 12% have between three and five incomes, 54% have between six and eight sources of income, 37% have nine to 11 income sources, while a quarter of households have between 12 and 14 income sources. No households receive non-wage income (welfare, pension, remittances etc).

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Table 4.5: Number of Income Sources of Households

Affected Households	No. of income sources per AH			
	3 to 5	6 to 8	9 to 11	12 to 14
Total AHs (#59)	7	32	22	15

71. The poverty line is estimated to be Rs. 849 per person per month, based on the data provided in the RFS survey and census there are no households that fall on or below the poverty line. Per capita monthly incomes of all the APs are higher than the national poverty line with an average of Rs. 3,075. The minimum of per capita income is Rs. 1,190 while the maximum is Rs. 6,111/person/month (Table 4.6).

Table 4.6: Monthly per Capita Income of Affected Households

Village	No. of AHs	Monthly per capita income (Rs)		
		Minimum	Maximum	Average
Chak 52/2-L	33	1,190.00	5,256.00	3,468.00
Chak 50/2-L	16	1,279.00	5,325.00	3,921.00
Chak 49/2-L	9	1,587.00	6,111.00	5,742.00
Chak 5A/4-L	1	2,580.00	2,580.00	2,580.00
Total (#59)	59	1,190.00	6,111.00	3,075.00

72. Table 4.7 shows an overall literacy rate of the affected population as 76%, with male AP's literacy rate of 84% and female AP's literacy rate of 68%.

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Table 4.7: Literacy Rate of APs by Gender

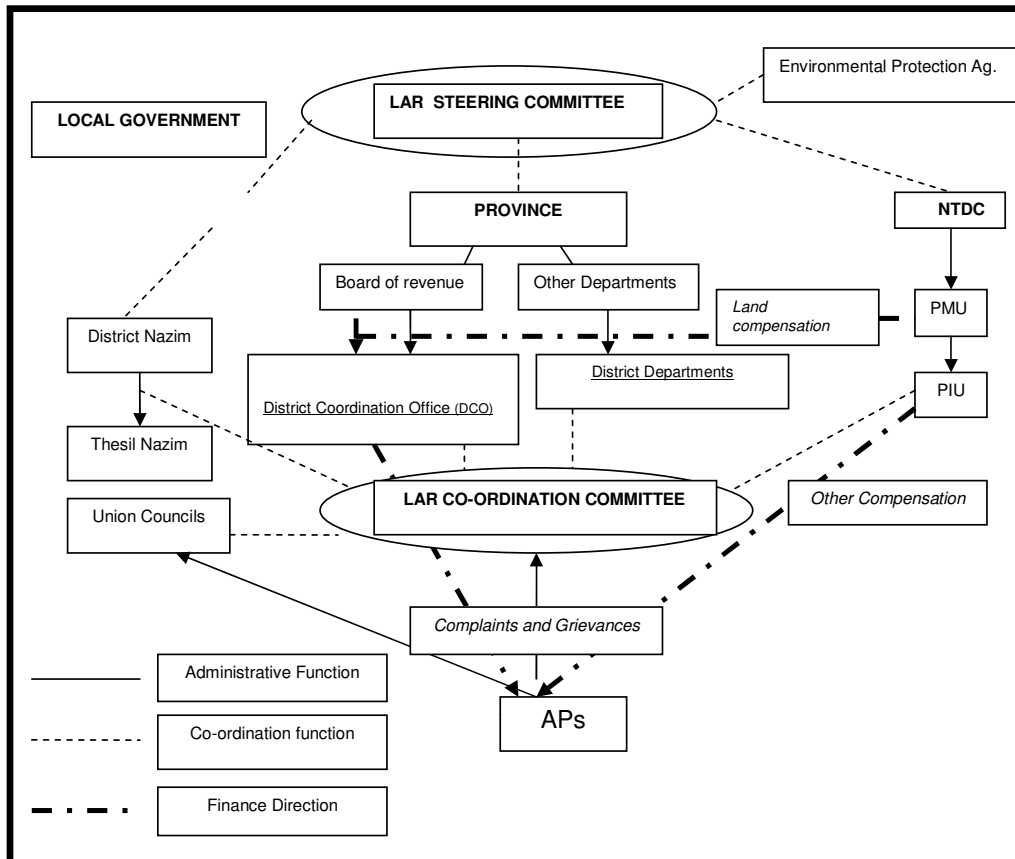
Description	Male APs	Female APs	Total APs
Total No. of APs	414	421	835
No. of Literate APs	347	284	631
AP Literacy Rate (%)	83.8	67.5	75.6

5. INSTITUTIONAL ARRANGEMENTS

73. The compensation and rehabilitation program described in this LARP involves a number of agencies including; NTDC as the implementing agency, the Punjab Board of Revenue, the Ministry of Environment, NGOs, Provincial Government of Punjab, and the Okara district government, as detailed below.

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Figure 5.1: LAR Organogram and Action



5.1 National Transmission and Dispatch Company

74. NTDC has overall responsibility for the preparation, implementation and financing of all tasks set out in this LARP as well as inter-agency coordination. NTDC will exercise its functions through a centrally based Project Management Unit (PMU) which will be responsible for general project execution, and at subproject level through Project Implementation Units (PIU) which will be tasked with day-to-day project activities.

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75. Within the PMU, LARP tasks will be managed by a specific group; the Land Acquisition and Resettlement Unit (LARU), which will update this LARP (including surveys, asset valuation, community consultation, and approvals), and internally monitor LARP implementation.

76. In the implementation of these LAR tasks the LARU will receive specific technical assistance from:

- Resettlement specialists under the design and supervision consultants, who will assist in land acquisition planning/implementation, internal monitoring, and in training NTDC and district governments on impact assessment and ADB policy/LARF requirements;
- An impact assessment/valuation team hired as required to assist in on-site preparation of surveys, base-line information gathering and AP consultation; and
- An external monitoring agency (EMA) to be hired to conduct periodic monitoring and third party validation of LARP implementation (see Section 5.4).

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5.2 District Government

77. 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 Collector Office (DCO) and the Land Acquisition Collector (LAC) within the DCO. A number of minor agents, most notably the Patwari, (the keeper of land records), carry out specific roles such as titles identification and verification (see Figure 5.2).

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78. Functions pertaining to compensation of assets different from land (i.e buildings, crops and trees) or income rehabilitation also fall on the local governments, more specifically on the relevant District Department.

Figure 5.2 - Organization of District Land Acquisition Collector Office



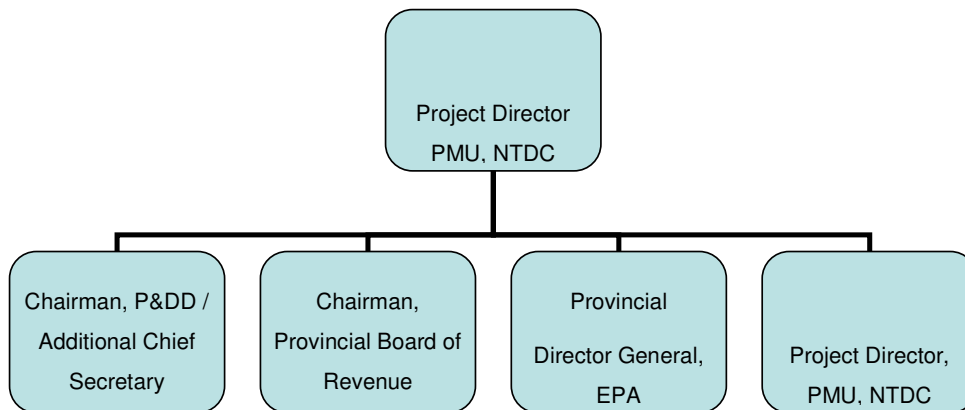
5.3 Other Agencies and Institutions

79. As various agencies will need to be carefully coordinated so as to obtain effective, smooth and timely LARP implementation, a land acquisition steering committee (LASC) will be directly assigned to NTDC-PMU by the Punjab Board of Revenue and district level coordination committees. The LASC will be established at provincial level and will include NTDC's General Manager; Provincial Chairman of Planning and Development Department, or Additional Chief Secretary; Chairman of Punjab Board of Revenue; Director General Punjab-EPA; and, Project Director (PD) NTDC-PMU (as shown in Figure 5.3).

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80. The LASC will meet periodically to ensure proper and timely formation of the district level coordination committees to facilitate the LARP approval and implementation processes.

Figure 5.3 - Organization of Land Acquisition Steering Committee



81. A Land Acquisition Coordination Committee (LACC) will be formed in Okara Town to assist with the updating and implementation of the LARP (in particular execution of surveys, valuation of assets, AP consultation, and local approval of LARP provisions). The committee formation will be initiated by the NTDC-PMU and will include representatives of PIUs, LARU, Tehsildars of the concerned districts, Naib Zilla Nazims, and Union Council Nazims representing the APs (Figure 5.4).

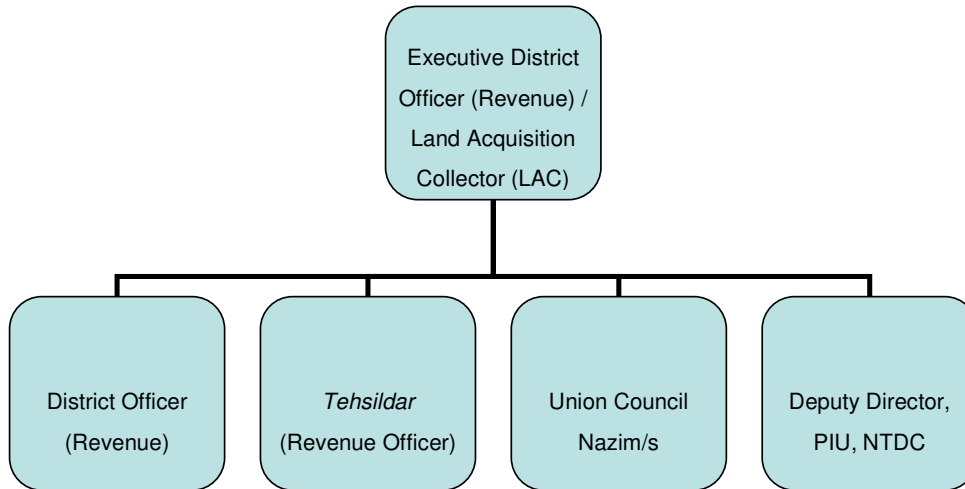
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82. One of the areas where LCC functions will be to offer the affected communities with a channel and a support group for addressing complaints and grievances. In this function the LCC will hear the complaint, and if found justified will support its lodging at the PMU, and as further described in Section 7.

Figure 5.4: Organization of Land Acquisition Coordination Committee



83. This LARP will require review and clearance by the Punjab Environmental Protection Agency (EPA) as part of Government’s Environmental Impact Assessment (EIA) approval procedures, as well as approval by ADB (the division that assess compliance with safeguard policies - RSES, ADB Headquarters in Manila, Philippines).

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5.4 Responsibility for Internal and External Monitoring

84. Land acquisition tasks under the project will be subjected to both internal and external monitoring. Internal monitoring will be conducted by NTDC-PMU, assisted by the design and supervision consultant.

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85. External monitoring will be assigned to an external monitoring agency (EMA) to be engaged by NTDC according to a Terms of Reference (TOR) that have been approved by ADB.

5.4.1 Internal Monitoring

86. Internal monitoring will be carried out routinely by the NTDC-PMU, the results will be forwarded to ADB through the quarterly project progress reports. Indicators for the internal monitoring will be related to the process as well as the results. This information will be collected directly from the field and reported monthly to the PMU to assess the progress and results of LARP implementation, and to adjust the work program, if necessary. The monthly reports will be quarterly consolidated in the standard supervision reports to ADB.

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87. The objectives of the monitoring are (i) to ensure that the standard of living of APs are restored or improved; (ii) to monitor whether the time lines are being met; (iii) to assess if compensation, rehabilitation measures are sufficient; (iv) to identify problems or potential problems; and (v) to identify methods of responding immediately to mitigate problems. The monitoring and evaluation program will be implemented to (a) record and assess project inputs and the number of persons affected and compensated, and (b) confirm that former subsistence levels and living standards are being re-established. The range of activities and issues that would therefore have to be recorded and checked, include:

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- Information disclosure and consultation process;
- Land acquisition and transfer procedures;
- Disbursement and timeliness of compensation payments;

- Adequacy of compensation rates (in the context of inflation adjusted values and actual replacement cost);
- Re-establishment of displaced households and/or business enterprises;
- Reaction of severely affected AHs, in particular, to resettlement and compensation packages;
- Re-establishment of livelihood and income levels;
- Grievance and complaints redress; and
- Ability of vulnerable AHs to improve their livelihoods (i.e. reduce their marginalization or move above the poverty line).

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5.4.2 External Monitoring

88. The objectives of monitoring are be two-fold; firstly, monitoring to verify that resettlement has been implemented in accordance with the approved LARF and LARP; and secondly, monitoring to ensure that APs have been able to at least restore their livelihoods.

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89. Indicators for external monitoring, in addition to those listed above to be collected for the internal monitoring, will include:

- Review and verification of the internal monitoring reports;
- Impact assessment through formal and informal surveys with the APs;
- Assess the efficacy of LARP implementation and drawing lessons for future resettlement policy formulation and planning; and
- Socio-economic conditions and levels of satisfaction of the APs in the post-resettlement period.

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90. The EMA will carry out a post-implementation evaluation of the LARP about a year after completion of its implementation. The compelling reason for this study is to find out if the objectives of the LARP have been attained or not. The benchmark data of socioeconomic survey of AHs conducted during the preparation of the LARP will be used to compare the pre-project and post-project conditions.

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91. The agency will undertake a baseline survey of each subproject area prior to implementation of the LARP to ensure that adequate pre-project data is collected and available for monitoring. The findings of the external monitoring reports will be conveyed to the NTDC through a meeting and necessary remedial actions will need to be taken and documented. The external monitoring reports will be submitted directly to ADB and NTDC.

6. CONSULTATION AND DISCLOSURE

6.1 Consultation Undertaken for the LARP

92. The consultative process undertaken for the preparation of this LARP has included not only AHs, but also representatives of local governments in the subproject area, and members of local people's organizations (e.g., CBCs, women's organizations, peasant worker's organizations). Special attention was paid to identify whether there were vulnerable groups within the AHs (such as the poor, women, and elderly), in order that their needs and views were considered in the formulation of the LARP.

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93. Consultation with stakeholders at the different stages of the subproject is required by ADB's Policy on Involuntary Resettlement and as provided for in the LARF. To start with, consultations with the APs were conducted as part of inventory taking of affected lands and other assets. The communities' and especially the APs' responses to the proposed subproject were found to be positive.

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94. Along with the participatory RFS and interviewing of APs, semi-structured discussions aiming at community awareness and consultations regarding the project's likely impacts were also held with the small groups of men and women, including APs, along the proposed transmission line. Eight group discussions and consultations were held (groups of men and women) in three villages.⁴ The total number of participants was 71; including 36 men and 35 women, as shown in the table below and as set out in Appendix 2.

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Table 6.1: Participants in Group Discussions and Consultations

Name of Village	No. of Groups			No. of Participants		
	Men	Women	Total	Men	Women	Total
Chak No. 52/2-L	2	1	3	18	10	28
Chak No. 50/2-L	1	2	3	11	16	26
Chak No. 49/2-L	1	1	2	7	9	16
Total	4	4	8	36	35	71

95. Most of the local communities' concerns and suggestions have been incorporated into subproject design and will be implemented as an integral part of subproject activities. The major concerns shown by the representatives of the AHs and villages were about the adequacy and timeliness of compensation payments as well as safety measures to be taken during the construction of the towers and stringing of the transmission lines. In response, NTDC will make sure that the crop compensation amounts are assessed justly and paid to the AHs, at least, one month (30 days), prior to the temporary use of land before starting the civil works.

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96. The local communities' responses (awareness, perceptions and preferences) to the Okara subproject and resettlement related matters are summarized as follows:

- Impacts and resettlement – the subproject's overall impacts were considered to be minimal and insignificant by the participants of the meetings. Thus, they all supported the subproject for ensuring an adequate and non-interrupted supply of power to their communities in particular, and to the country in general;

⁴ Only one AH is located in Chak No. 5-A/4-L, the head of this households participated in the consultation meetings held in Chak No. 52/2-L.

- The subproject is necessary under local conditions - all of people at the meetings provided their support for the project stating that the current load-shedding and overloaded transmission lines require proper upgrading and enhancement so that the transmission network is safe and has the capacity to meet the needs of the communities;
- Project awareness – the majority (72%) of the participants are somewhat aware of the upcoming subproject, but none of them are aware of its exact resettlement effects, the LARF nor their entitlements for various types of resettlement effects. However, on the basis their prior experience, almost all the participants requested permission from NTDC for unrestricted use of their affected farmlands after the completion of the project works; and
- Clearance of structure/assets from the subproject corridors - as there are no structures whether residential, commercial or cultural buildings affected and therefore no questions were asked about this matter. Fruit orchards and brick kilns have been avoided by minor alterations in the transmission line route alignment and by using angular towers to ensure higher clearance of transmission line above the fruit trees. For the affected “wood” trees that would be falling within 30m wide strip of land under the transmission lines, all the participants requested compensation based on the current open market values (and as provided in the compensation rates survey reported in Section 8).

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6.2 Compensation Options Discussed

97. In addition to the focus group discussions and consultative meetings described above, the RFS included a questionnaire with several questions regarding APs' preferences for compensation and rehabilitation options. This information has been and will be used to assist in determining the support measures required by APs.

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98. The first compensation priority of all APs is for cash, rather than land or a combination of cash and land. When asked why they preferred cash compensation, half of all APs stated the reason was to assist with daily living expenses, while a few households (6) stated it would compensate for their lost crops and/or trees. No APs stated they would use compensation monies for establishing a business or agricultural activity or purchasing land. Some 47 per cent of APs stated they would use the compensation money to pay a debt.

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99. All APs responded affirmatively when asked if it was acceptable that the project could only provide cash compensation for land to be acquired.

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100. APs were also asked if they had a general knowledge of either the provisions of the LAA, no APs stated they were aware of the LAA or its general provisions. This emphasizes the importance of provision of clear and timely information to APs.

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101. Some 58 per cent of APs stated that people should not be asked to voluntarily give up their land for public projects without receiving compensation. For those that stated that people could be asked to give up their land without receiving compensation, only two reasons were given; if the people have other land or if the people being asked to relinquish land would not be materially affected by the loss then voluntary contributions are acceptable (i.e. if the losses to be suffered were small).

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102. In summary, the compensation and resettlement options discussed and agreed upon during the consultation meetings included:

- Relocation - not applicable;
- Assistance - not applicable;

- Compensation – the majority of AP representatives look forward to receiving a “fair” and “timely” compensation for their lost/affected crops and trees. By “fair”, they meant the application of prevalent open market rates, or “replacement value” for their crop production and wood trees. By “timely”, they meant prior to the temporary use of their lands and sustaining any damage to or removal of their crops and trees, as provided for in the LARF; and
- Job opportunities - the more disadvantaged people in the villages requested that NTDC assist them with job opportunities with the contractors, on a priority basis, during project implementation.

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6.3 Disclosure

103. An English version of the program’s LARF has already been uploaded to ADB’s website and an Urdu version has been made available through NTDC’s headquarters and PIUs in subproject areas (first tranche).

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104. In line with ADB’s public communications policy, this LARP in English will also be posted on the ADB website, while its translation in Urdu will be disclosed to the APs at the Okara PIU office.

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105. In addition, a public information booklet in Urdu, summarizing compensation provisions, will be sent to all APs (a draft booklet has been prepared as Appendix 3).

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7. GRIEVANCE REDRESS PROCESS

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- | **106.** 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 will be fully informed of their rights and of the procedures for addressing complaints whether verbally or in writing during consultation, survey, and time of compensation.
- | **107.** 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 community, the PMU, the LAC and local governments in general.
- | **108.** As finances will move differently for (i) land (for land use or access impacts) and (ii) other items compensation or rehabilitation (in the first case funds will move from NTDC through the DCO 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 7.1.

Table 7.1: 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 the LARU, NGO and informal mediators.	1. First, complaints resolution will be attempted at village level through the involvement of the LARU, NGO and informal mediators.
2. If still unsettled, a grievance can then be lodged to the LAC who has 30 days to decide on the case.	2. If still unsettled, a grievance can be lodged to the PIU/LARU, which will have 30 days to respond.
3. If no solution was reached a grievance can be lodged with support of the LCC to the PMU. The AH must lodge the complaint within 1 month of lodging the original complaint with the 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 LARF provisions.	3. If no solution was reached a grievance can be lodged with support of the LCC to the PMU. The AH must lodge the complaint within 1 month of lodging the original complaint with the 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 LARF provisions.
4. Should 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).	4. Should 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).

8. BUDGET FOR LAND AND ASSET ACQUISITION

8.1 Basis for Compensation

109. Compensation for projects requiring land acquisition can often differ between the borrower and ADB (and other providers of official development assistance). To comply with ADB's Policy on Involuntary Resettlement, rates used to compensate for lost land and assets must be 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.

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110. 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 the Okara subproject followed the methodology set out in the project's LARF.

8.2 Determining the Rates for Compensation

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

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- Basic annual crop compensation was 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 by tower bases and perimeters is three-crop and for stringing of the lines is for one-crop; 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.

112. The valuation survey registered recent current crop and tree sales at local markets and was based on AH and community consultation (including relevant local government agencies). The conclusion of the survey is that in most cases the actual transaction values are higher than the values officially documented and registered. The results of the survey are provided in the tables below (Tables 8.1 to 8.4).

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Table 8.1: Rate/Price for Crops in Subproject Area

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Affected Crop	Average gross income			
	Rs/per acre	Rs/per ha	Rs/per m2	US\$/ha
Wheat	36,300	14,696	1.47	244.94
Maize	58,450	23,663	2.37	394.40
Potato	63,250	25,607	2.56	426.79
Vegetables	72,200	29,230	2.92	487.18
Sugarcane	48,500	19,635	1.96	327.26

Table 8.2: Affected Wood Trees by Size

No.	Name of Wood Tree	Small		Medium		Large	
		Height (m)	Girth (m)	Height (m)	Girth (m)	Height (m)	Girth (m)
1	Shisham	≤ 3.8	≤ 0.5	3.9 - 7.6	0.5 - 0.9	> 7.7	> 1.0
2	Eucalyptus	≤ 4.6	≤ 0.3	4.6 - 9.1	0.4 - 0.5	> 9.1	> 0.5
3	Kikar	≤ 3.0	≤ 0.5	3.1 - 6.1	0.5 - 0.9	> 6.1	> 1.0
4	Mulberry	≤ 3.0	≤ 0.5	3.1 - 6.1	0.5 - 0.9	> 6.1	> 1.0

8.3: Current Market Values of Affected Wood Trees

No.	Name of Wood Tree	Market Rates by Size of Wood Tree (Rs.)			
		Small	Medium	Large	Average
1	Shisham (Sisso)	5,000	7,000	9,000	7,000
2	Eucalyptus	2,500	3,500	6,000	4,000
3	Kikar (Acasia)	2,500	4,500	6,000	4,333
4	Mulberry	2,000	3,000	6,000	3,667

Table 8.4: Compensation Assessed for Affected Wood Trees

No.	Name of Wood Tree	Relative Size	Affected Wood Trees (No.)			Market Rate (Rs)	Total Price (Rs)
			Line A	Line B	Total		
1	Shisham	Small	16	9	25	5,000	125,000
-	-	Medium	28	32	60	7,000	420,000
-	-	Large	14	6	20	9,000	180,000
<i>Sub-total (a): Shisham</i>			<i>58</i>	<i>47</i>	<i>105</i>	-	<i>725,000</i>
2	Eucalyptus	Small	14	8	22	2,500	55,000
-	-	Medium	12	11	23	3,500	80,500
-	-	Large	9	3	12	6,000	72,000
<i>Sub-total (b): Eucalyptus</i>			<i>35</i>	<i>22</i>	<i>57</i>	-	<i>207,500</i>
3	Kikar (Acasia)	Small	10	7	17	2,500	42,500
-	-	Medium	7	19	26	4,500	117,000
-	-	Large	4	2	6	6,000	36,000
<i>Sub-total (c): Kikar (acasia)</i>			<i>21</i>	<i>28</i>	<i>49</i>	-	<i>195,500</i>
4	Mulberry	Small	5	2	7	2,000	14,000
-	-	Medium	6	4	10	3,000	30,000
-	-	Large	1	2	3	6,000	18,000
<i>Sub-total (d): Mulberry</i>			<i>12</i>	<i>8</i>	<i>20</i>	-	<i>62,000</i>
TOTAL:			126	105	231	-	1,190,000

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8.3 Budget for Land and Asset Acquisition

113. The following discussion and budget is includes the cost of the barren land to be acquired from the Provincial Government for the sub-station. The price for the 16 has been set and will be ratified by the Land Valuation Committee to be established for this purpose, under the Chairmanship of the Executive District Officer (Revenue), Okara.

114. This LARP budget also includes the cost of compensation, rehabilitation and other restoration/assistance entitlements of the 59 private AHs only, with a breakdown by crops and trees, and other associated costs. The cost estimate has been based on the rates derived through consultation and survey as described in Section 8.2. The rates for compensation and cash entitlements for rehabilitation as well as allowances payable to AHs will be adjusted annually, based on the actual annual inflation rate. NTDC, with the LACs, will determine the annual inflation rates and adjust all cash entitlements.

115. The price of land for substation with transfer charges is set at Rs. 23.87 million (US\$ 392,009), and the compensation for the affected crops and trees is assessed at Rs. 2.63 million (US\$43,143).

116. The administrative charges have been estimated as 15 per cent of the total of compensation for crops and trees, and allowances (which is Rs. 3.98 million, or US\$65,273). These charges are to cover the costs of implementing the plan (producing and distributing the PIB, holding individual and group consultations and public meetings as required, verifying the RFS, revising the LARP if required (to reflect any minor changes), organizing and arranging for the compensation payments through the LACCs), and internal monitoring of the plan and its implementation. Appendix 4 presents the affected households by tower location.

117. A contingency of 10 per cent of the subtotal of the compensation and administrative charges has been included in the cost estimate. This is Rs. 2.65 million, (US\$43,515).

118. Funds for compensation and implementation of the LARP will be from the Government (counterpart funds) via NTDC, budgetary requirements for economic restoration, as part of resettlement budget will also come from the counterpart funds and shall be identified as allowances. The EMA will be financed as a project loan cost as a component of the project support fund.

119. As shown in Table 8.3, the total cost of LARP implementation, excluding the cost of the government land to be acquired for the sub-station, will be Rs. 35.08 million, (US\$575,967).

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Table 8.2: Average Rate/Price for
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Table 8.3: Cost of Okara LARP

No.	Resettlement Activity	No.	Unit	Rs./Unit	Amount (Rs.)
A.	Asset Compensation (Land+Trees+Crops)	-	-	-	26,500,791
A.1	Purchase of Govt. Land for Grid Station:	16.2	Ha	-	23,873,353
	Land Price based on Rs. 455,000 per Acre	16.2	Ha	1,370,850	22,207,770
	Taxes and Stamp Papers, etc. (@7.5%)	0.075	-	-	1,665,583
A.2	Loss of Trees (Wood Trees only):	231	Tree	5,152	1,190,000
	Shisham (sisso)	105	Tree	6,905	725,000
	Eucalypts/Poplar	57	Tree	3,640	207,500
	Kikar (acasia nicolta)	49	Tree	3,990	195,500
	Toot (mulberry)	20	Tree	3,100	62,000
A.3	Loss of Crops (Average of Four Crops*):	111,704	m²	-	1,437,438
	Crop Loss - Towers (x 3 Crops)	26,100	m ²	8.77	686,691
	Crop Loss - TL Corridor (x 1 Crop)	85,604	m ²	8.77	750,747
B.	Other Activities	-	-	-	1,411,704
B.1	Rehabilitation of Affected Lands/Structures	111,704	m ²	1.00	111,704
B.2	Resettlement Specialist (implementation)	3.00	pers/mo	300,000	900,000
B.3	External Monitoring	1.00	pers/mo	300,000	300,000
B.4	Training of NTDC staff (including materials)	1.00	-	100,000	100,000
C.	Administration Costs (15% of Compensation)	0.15	-	26,500,791	3,975,119
D.	Subtotal (A+B+C)	-	-	-	31,887,613
E.	Contingency (10%)	0.10	-	-	3,188,761
	Total Amount (Pak. Rupees):	-	-	-	35,076,375
	Total Amount (US Dollars):	-	-	-	575,967

*US\$ 1.00 = Pak. Rs. 60.90

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9. IMPLEMENTATION SCHEDULE

120. The overall program will be implemented over a five to six year period with the first tranche of subprojects scheduled to commence upon loan approval. Implementation of resettlement and related activities will take place after the project supervision consultant has mobilized, who will work closely with, and assist, the NTDC in all resettlement and related activities, as presented in Table 9.1 (overleaf).

121. Civil works contractors will not 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.

122. 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.

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Table 9.1: Implementation Schedule for Okara Subproject

LARP Activity/Task	Responsibility		2007	Year 2008		Year 2009	
	Primary	Sec'y	Comp	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun
Preparation	LARF Disclosure - Brochure in Urdu	PMU	LARU				
	LARF Revision (if necessary)	PMU	LARU/RS				
	Request to Govt. of Punjab for NOC/Land Transfer	Govt	PMU				
	Request to DRO for initiating process	PMU	LARU/RS				
	Negotiations with Punjab BOR	DRO/LAC	LARU/RS				
	LARP disclosure - Brochure in Urdu	PMU	ADB				
	Site Demarcation of Affected Lands	PMU	LARU/RS				
Implementation	Mobilize project supervision consultant	Govt	NTDC				
	LARP revision (if necessary)	PMU	LARU/RS				
	Info dissemination regarding comp. payment & evacuation dates	PMU	LARU/RS				
	Submit revised LARP to EPA/ADB. LARP approval prior to Award of Contracts.	Govt/ADB	NTDC				
	Adjust compensation rates & rehabilitation costs for inflation (if nec.)	DRO/LAC	NTDC-PMU				
	Delivery of compensation. Payments to made prior to the start of Civil Works	DRO/LAC	LARU/RS				
	LARP monitoring (internal, and mobilization of EMA & baseline survey)	NTDC-PMU	EMA				
Construction	Grievance Redress Process	LACC	LARU/RS				
	Possession of land for starting works	DRO/LAC	PMU/NTDC				
	Contractor mobilized, civil works commenced	Contractor	Consultant				
	Final payment of crop compensation	PMU	LARU/RS				
LARP monitoring; post-evaluation report submitted	EMA	NTDC/ADB					

10. MONITORING AND EVALUATION

123. 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 the actual achievement in comparison to those aimed at during the implementation. LARP implementation will be monitored both internally and externally.

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124. The NTDC/PMU through LARU will be responsible for internal monitoring through its field office. The Resettlement Specialist will provide necessary technical assistance in implementing and monitoring the resettlement activities. In addition, a part-time consultant (an EMA) will be responsible for independent monitoring and evaluation of the resettlement activities.

10.1 Internal Monitoring

125. The Short LARP includes indicators and benchmarks for achievement of the objectives under the resettlement program, which can be categorized as follows:

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- Process indicators including project inputs, expenditures, staff deployment;
- Output indicators are results in terms of numbers of AHs compensated for their affected assets (land, crops and/or trees), timeliness of compensation as per the schedule; and,
- Impact indicators related to the long-term effect of lives of AHs in the project-affected area.

126. The first two types of indicators, related to process and immediate outputs and results, will be monitored internally by LARU. 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 or problems. Specific activities under LARP implementation that will be monitored are the following:

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- Information campaign and consultation with AHs on a continued basis;
- Status of land acquisition/purchase and payments of crop and tree compensations;
- Status of restoration of damaged community infrastructure (water pipelines, irrigation channels / watercourses, drains, roads, streets, etc.)
- Grievances redress activities

127. The LARU will be responsible for monitoring the day-to-day resettlement activities of the project. The socio-economic census and the land acquisition data provide the necessary benchmark for field level monitoring. Field level monitoring will be carried out through:

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- Review of IOL/Census information for all AHs;
- Consultation and informal interviews with AHs;
- In-depth case studies;
- Informal sample survey of AHs;
- Key informant interviews; and
- Community public meetings.

128. A performance data sheet will be developed to monitor the project at the field level. Quarterly reports will be received from the field offices and LARU will be responsible for overall project level monitoring.

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10.2 External Monitoring

129. As mentioned earlier, a consultant, consulting firm, or NGO will be engaged on part-time basis to carry out independent monitoring and evaluation of the LARP implementation (see TORs in Appendix 5). Independent evaluation will be undertaken on a bi-annual basis till the end of the Project. The Consultant will be selected by the NTDC/PMU, with advice and concurrence of ADB. S/he will review the status of the resettlement implementation in light of the targets, budget and duration that had been laid down in this short LARP. The key tasks during external monitoring include:

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- Review and verify internal monitoring reports prepared by LARU;
- Identification and selection of impact indicators;
- Impact assessment through formal & informal surveys with the affected persons;
- Consultations with AHs, officials, community leaders for review report; and
- Assessment of the resettlement efficiency, impact and sustainability, and drawing lessons for future resettlement policy formulation and planning.

10.3 Indicators for Monitoring and Evaluation

130. The following will be considered as the basis for indicators in monitoring and evaluation of the this subproject's LARP:

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- 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;
- Valuation of property;
- Grievance procedures;
- Disbursement of compensation; and
- Level of satisfaction of AHs in the post resettlement period.

10.4 Resettlement Database and Reporting Requirements

131. 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 LARU and EMA through their concerned field offices and computerized by the LARU, EHV-GSC office in Lahore. This database will form the basis of information for implementation, monitoring and reporting purposes and facilitate efficient resettlement management.

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132. The LARU responsible for supervision and implementation of LARP will prepare monthly progress reports on resettlement activities and submit them to the ADB for review.

133. The Resettlement Specialist will also monitor LARP implementation independently and submit quarterly reports to PMU, NTDC and ADB. These quarterly reports will also highlight the bottlenecks and recommend ways and means to improve such problematic situations.

134. The EMA will submit bi-annual review reports directly to ADB 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. S/he will also provide a copy of the same report to NTDC Headquarters for information and successive action.

APPENDICES

- Appendix 1 - Summary of Resettlement Field Surveys (IOL Database)
- Appendix 2 - List of People Consulted for LARP (Okara)
- Appendix 3 - Draft Public Information Brochure
- Appendix 4 - List of Affected Households by Towers
- Appendix 5 - Terms of Reference for External Monitoring Agency (Consultant/NGO)

APPENDIX 1: SUMMARY OF RESETTLEMENT FIELD SURVEYS (DATABASE)

AP No	Village and Name of HH Head	Agri land TEMP affected (m ²)	Crop – wheat (m ²)	Crop – potato (m ²)	Crop – veg (m ²)	Crop - sugar cane (m ²)	No. AHs with trees affected	No. trees affected	No. mulberry	No. euc.	No. kikar	No. sheesham
	TOTAL Ahs	111704	71234	6520	9384	23664	46	231	20	57	49	105
	CHAK 52/2-L	49104	33054	6520	9134	400	21	96	2	25	20	49
1	Rana Mohammed Anwar	900	900				0	0				
2	Sher Mohd/Munsaf Khan	820		820				0				
3	Ch. Asghal Ali	800	800				1	2				2
4	Ch. Saeed Numbu Dar	1200	1200				0	0				
5	Haji Saeed Numbu Dar	1500			1500		1	6			2	4
6	Rasheed Arian	630			630		1	1		1		
7	Rana Shabi Khan	400			400		0	0				
8	M Fiaz/Hashmat Ali	1600	1200		400		1	5			2	3
9	Rahim Buksh	2604	2104		504		1	6		3		3
10	Khushi Muhammed	1200		1200			0	0				
11	Rana Arkeel	1600	1200		400		1	7			2	5
12	Mukhtar Malik	1500	1200		300		1	6			2	4
13	Ghulam Muhammed	1300	1200		100		0	0				
14	Sardar Muhammed	3000	1200	1000	800		1	5		2	2	1
15	Muhammed Hameed	2400	1800		600		1	4			2	2
16	Allah Din	1700	1200	300	200		1	8		2		6
17	Muhd Khan/Niaz Khan	2500	2000	500			1	2			1	1
18	Munu Ahmed	1800			1800		0	0				
19	Abdul Rasheed	300		300			1	2		2		
20	Rana Shahid/Mehdi Khan	1200	1200				1	2				2
21	Muhammed Din	1600		1000	600		1	2			1	1
22	Muhammed Arshad	1200	1200				1	2		1	1	
23	Rana Hameed	2400	2400				1	2		1		1

Power Transmission Enhancement Program

AP No	Village and Name of HH Head	Agri land TEMP affected (m ²)	Crop – wheat (m ²)	Crop – potato (m ²)	Crop – veg (m ²)	Crop - sugar cane (m ²)	No. AHs with trees affected	No. trees affected	No. mulberry	No. euc.	No. kikar	No. sheesham
24	Muhammed Ashraf	1600	1600				1	7		1	1	5
25	Saeed Jutt	1650	1250			400	0	0				
26	Raa Bagab	1600		800	800		1	6		5	1	
27	Muhammed Golan	400	300		100		1	2				2
28	Mustafa/Shu Muhammed	1800	1800				0	0				
29	Muhammed Buksh	1400	800	600			1	8		3	1	4
30	Zahid Khan	900	900				0	0				
31	Akbal Khan	1800	1800				0	0				
32	Jamal Din	2200	2200				1	11	2	4	2	3
33	Fazal Din	1600	1600				0	0				
	CHAK 50/2-L	36964	21450	0	250	14364	16	89	9	28	18	34
34	Muhammed Javed	1800	1550		250		1	6		6		
35	Allah Dita Bhati	3200	1400			1800	1	2			2	
36	Muhammed Hussain	100	100				1	7			2	5
37	Haji Abdul Hameed	2800	2000			800	1	2			1	1
38	Allah Ditta	1400	600			800	1	6		3	1	2
39	Rana Naseen Din	2000	2000				1	2			2	
40	Jamil Ahmed	2200	2000			200	1	8		4		4
41	Muhammed Dib	2400	2400				1	5			3	2
42	Fazal Din Jat/Kushi M'med	1970				1970	1	5	3			2
43	Habib/Ashraf	1800				1800	1	4	2			2
44	Muhammed Asghar	2100	900			1200	1	7	1	2		4
45	Iqbal Jutt	2000	2000				1	2				2
46	Sama Ullah Sindhu	2000	1000			1000	1	7		6	1	
47	Allah Ditta Bhata	2400	800			1600	1	9		5		4
48	Muhammed Khushiti	3970	3200			770	1	9	3	2	2	2
49	Jumma Khan	3924	1500			2424	1	8			4	4
	CHAK 49/2-L	24737	15830	0	0	8900	9	46	9	4	11	22

Power Transmission Enhancement Program

AP No	Village and Name of HH Head	Agri land TEMP affected (m ²)	Crop – wheat (m ²)	Crop – potato (m ²)	Crop – veg (m ²)	Crop - sugar cane (m ²)	No. AHs with trees affected	No. trees affected	No. mulberry	No. euc.	No. kikar	No. sheesham
50	Malik Munawar	2400	600			1800	1	8		4		4
51	Abdul Majeed	2100	2100				1	5			2	3
52	Qazi Bashir	2230	2230				1	7	3			4
53	Muhammed Iqbal	2400	900			1500	1	8	4		1	3
54	Fazal Din	1500	1500				1	3			2	1
55	Fazal ul Rebman	3800	1600			2200	1	3			2	1
56	Pu Muhammed	3812	1612			2200	1	4	2		1	1
57	Attah Allah	4388	4388				1	3				3
58	Attah Muhammed	2100	900			1200	1	5			3	2
	CHAK 5A/4-L	900	900	0	0	0	0	0	0	0	0	0
59	Abu Saeed/Abdul Aziz	900	900				0	0				
	CHAK 49/2-L	24737	15830	0	0	8900	9	46	9	4	11	22

APPENDIX 2: LIST OF PEOPLE CONSULTED FOR OKARA LARP

Village 1: Chak No. 52/2-L							
Men's Group 2 - 10 January 2007 (Wednesday)				Women's Group - 10 January 2007 (Wednesday)			
No.	Name	Status	AH	No.	Name	Status	AH
1	Abu Saeed s/o Abdul Aziz*	Landowner	AH	1	Laiqa Bibi	House-Wife	AH
2	Sher Mohammad	Landowner	AH	2	Parveen Akhtar	House-Wife	AH
3	Rana Mohammad Anwaar	Landowner	AH	3	Shazia Shabbir	Teacher	AH
4	Chaudhry Asghar Ali	Landowner	AH	4	Huma Riaz	Paramedic	-
5	Rana Shabbir Khan	Landowner	AH	5	Afshan Begum	Student	AH
6	Haji Saeed Ahmad	Landowner	AH	6	Muniba Habib	Teacher	AH
7	Bashir Ahmad Arain	Sharecropper	-	7	Safeera Maqbool	House-Wife	AH
8	Imtiaz Husain	Lease Tenant	-	8	Hafeeza Bashir	House-Wife	-
9	Mohammad Fayyaz	Landowner	AH	9	Munazza Ara	NGO Worker	AH
10	Habib-ur-Rahman	Shopkeeper	-	10	Imtiaz Bibi	House-Wife	-
Village 2: Chak No. 50/2-L							
Men's Group - 11 January 2007 (Thursday)				Women's Group - 11 January 2007 (Thursday)			
1	Rana Shahid	Landowner	AH	1	Hameeda Begum	House-Wife	AH
2	Ghulam Nabi	Landowner	AH	2	Asghari Begum	House-Wife	AH
3	Abdul Rashid	LO + Teacher	AH	3	Mumtaz Bibi	Teacher	-
4	Rao Mohammad Baqir	Landowner	AH	4	Rani Bibi	Student	-
5	Mukhtar Malik	LO + Teacher	AH	5	Khurshid Waqas	Paramedic	AH
6	Rana Wakeel Ahmad	LO + Business	AH	6	Afsar Jan	House-Wife	AH
7	Faiz Mohammad	Shopkeeper	-	7	Maryam Bibi	Tailor + HW	-
8	Asghar Ali Bhatti	Lease Tenant	-	8	Rozina Rashid	Teacher	AH
Village 2: Chak No. 502/2-L							
Men's Group - 11 January 2007 (Thursday)				Women's Group - 12 January 2007 (Friday)			
1	Haji Abul Majeed	Landowner	AH	1	Shamim Ara	Teacher	-
2	Allah Ditta Bhatti	Landowner	AH	2	Wakeela Begum	House-Wife	AH
3	Sanallah Sindhu Jatt	Landowner	AH	3	Jannat Bibi	House-Wife	-
4	Khushi Mohammad	Landowner	AH	4	Rahmat Jan	House-Wife	AH
5	Hafeez-ur-Rahman	Teacher	-	5	Fordous Begum	Teacher	AH
6	Pir Mohammad	Landowner	AH	6	Zubaida Naseer	House-Wife	AH
7	Mumtaz Husain	Sharecropper	-	7	Anisa Jameel	Teacher	AH
8	Mohammad Afzal	Labour	-				
9	Rana Naseer Din	Landowner	AH				
10	Jameel Khan	Lease Tenant	AH				
11	Mohammad Khan	Landowner	AH				
Village 3: Chak No. 49/2-L							
Men's Group - 13 January 2007 (Saturday)				Women's Group - 13 January 2007 (Saturday)			
1	Mohammad Iqbal Jatt	Landowner	AH	1	Zahida Bibi	House-Wife	AH
2	Fazal Din	Landowner	AH	2	Shabnam	Teacher	AH
3	Qazi Mohammad Bashir	LO + Tenant	AH	3	Rahima Bibi	House-Wife	-
4	Habeeb s/o Ashraf	LO + Tenant	AH	4	Nabiha Ara	Teacher	AH
5	Munawwar	Landowner	AH	5	Wahida Afzal	Student	-
6	Fazlur Rahman	Sharecropper	-	6	Ummi Kulsoom	Teacher	-
7	Anis Bhatti	Lease Tenant	-	7	Naheeda	House-Wife	AH
				8	Fazilat Hameed	Teacher	AH

APPENDIX 3: DRAFT PUBLIC INFORMATION BROCHURE

**Power Transmission Enhancement Program
Okara New 220kV Sub-station and (Twin) Transmission Lines**

National Transmission and Dispatch Company
Government of Pakistan

October 2007

Impacts Compensation/Rehabilitation: Information Booklet

A. Introduction

The National Transmission and Dispatch Company (NTDC) is intending to take a loan from the Asian Development Bank (ADB) to implement the Power Transmission Enhancement Program (PTEP) aiming at upgrading and extending the transmission network to expanding the capacity and coverage of the network. The project will be implemented over five to six years, and will include a number of tranches or groups of subprojects.

The first tranche includes some 21 subprojects including three new sub-stations (including the Okara substation), expansion of existing sub-stations, and installation of associated transmission lines; 18 of the subprojects will not cause any resettlement impacts as they entail transformers being installed within an existing sub-station site and no works beyond the existing sub-station site boundaries. There are three subprojects (including Okara subproject) that require transmission lines and the installation of the towers for these will require land acquisition, and the stringing of their lines will mean that crops and trees will be damaged.

These subprojects include also the Okara Sub-station and 220 kV Transmission Line Subproject which will provide additional capacity for the area. The substation will be constructed on state owned barren land to be acquired from the government. There will be approximately 10km of double conductor 220kv dual circuit transmission lines to connect to the Sarfaraz Nagar-Sahiwal 220kv transmission line (approximately 5km to the west). The incoming/outgoing 220 kv transmission lines will run through four villages; Chak 59/2-L; Chak 50/2-L; Chak 49/2-L and Chak 5A/4-L, all located in Okara district.

The subproject will be implemented in the area where you live starting later in 2007 and will affect crops and trees in your communities. To compensate and/or rehabilitate these losses the provisions of relevant Pakistan laws and of the ADB Policy on Involuntary Resettlement will be adopted. This has included the preparation of a Land Acquisition and Resettlement Framework (LARF) setting out the basic compensation/rehabilitation provisions for the PTEP and a Land Acquisition and Resettlement Plan (LARP) providing data on impacts and affected families and indicating in detail how the impacts will be compensated or rehabilitated has been prepared for each subproject that requires temporary disturbance to land and subsequent compensation for crops and trees.

Both the LARF and the LARP in Urdu language will be available for perusal to anyone interested at the Project Implementation Unit in Okara district. This booklet summarizing the provisions of the LARF and the LARP for the Okara Subproject is given to all the families whose land, trees and crops and incomes are affected by this subproject. The objective of this booklet is to inform them of the essential compensation and rehabilitation policy for the Okara Subproject and of a number of basic issues relative to the implementation of the compensation and rehabilitation program.

B. Principles for Compensation and/or Rehabilitation of Affected Families

Principles for the compensation/rehabilitation of affected people (APs) by the Okara Substation and Transmission Line subproject are:

- Land acquisition will be avoided and acquisition will only occur where access to, or use of, an AP's land is affected;
- Compensation will guarantee the maintenance of the APs pre-project living standards;
- APs will be fully informed/consulted on compensation options;
- APs' socio-cultural institutions will be supported and used;
- Land acquisition provisions will equally apply to women and men;
- Lack of formal title will not impede rehabilitation of families losing land;
- Particular attention will be paid to women-headed households and vulnerable groups;
- Land acquisition budgets will be included in project costs; and
- Compensation will be fully provided prior to ground leveling and demolition.

C. Compensation and Rehabilitation Eligibility and Entitlements

All families residing in affected areas and holding affected assets or incomes before the eligibility cut-off date for the project 14th January 2007 (the date of the end of the resettlement impact survey) will be entitled to compensation and/or rehabilitation for their losses. This provision includes legal owners, sharecroppers and leaseholders and squatters as detailed in Table [A-1](#).

Table A-1 - Eligibility and Entitlements Matrix

Asset	Specification	Affected People	Compensation Entitlements
Arable Land	Access is not restricted and existing or current land use will remain unchanged	Farmer/Titleholder	No Land compensation provided that land is rehabilitated/restored to former quality following completion of works. Compensation, in cash, for all damaged crops and trees as per item below
		Leaseholder (registered or not)	No Land compensation provided that the land is rehabilitated/restored to former quality following completion of works. Compensation, in cash, for all damaged crops and trees as per item below
		Sharecroppers (registered or not)	Compensation, in cash or kind, for all damaged crops/trees as per item below
		Agricultural workers	Compensation, in cash or kind, for all damaged crops/trees as per item below
		Squatters	Compensation, in cash, for all damaged crops/trees as per item below
Arable Land where access is restricted and/or land use will be affected	All adverse effects on land use independent of severity of impact	Farmer/Titleholder	Land for land compensation with plots of equal value and productivity to the plots lost; or cash for affected land at replacement cost based on market value ^a plus 15% compulsory acquisition surcharge and free of taxes, registration, and transfer costs
		Leaseholder (registered or not)	Renewal of lease in plots of equal value/productivity of plots lost, or Cash equivalent to market value of gross yield of affected land for the remaining lease years (up to a maximum of 3 years).
		Sharecroppers (registered or not)	Cash compensation equal to market value of lost harvest share once (temporary impact) or twice (permanent impact)
		Agricultural workers	Cash indemnity equal to salary (including portions in kind) for remaining part of agricultural year.
		Squatters	1 rehabilitation allowance equal to market value of 1 gross harvest (additional to crop compensation) for land use loss.
	Additional for severe impacts (>10% of land loss)	Farmer/Titleholder	1 severe impact allowance equal to market value of gross harvest of affected land for 1 year (inclusive of winter and summer crop and additional to standard crop compensation)
		Leaseholder	1 severe impact allowance equal to market value of harvest share (additional to standard crop compensation)
Residential/ Commercial Land		Titleholder	Land x land through provision of plots comparable in value/location to plot lost; or cash for affected land at full replacement cost free of taxes, registration, transfer costs plus 15% compulsory acquisition surcharge.
		Renter/Leaseholder	1-3 months allowance
		Squatters	Accommodation in a government resettlement area or a self-relocation allowance
Houses and Structures		All relevant Ahs (including squatters)	Cash compensation at replacement rate for affected structure/other fixed assets free of salvaged materials, depreciation or transaction costs. For partial impacts full cash assistance to restore remaining structure.
Crops	Crops affected	All AHs (also squatters)	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. All other crop losses will be compensated at market rates based on actual losses.
Trees	Trees affected	All AHs also squatters)	Cash compensation shall reflect income replacement
Business Employment	loss of business or employment	All AHs (including squatters)	Business owner: (i) Cash compensation equal to 1 year income, if loss permanent; (ii) cash compensation for the period of business interruption, if loss is temporary. Worker/employee: lost wages indemnity for the business interruption period up to a 3 months maximum.
Relocation	Transport/transition costs	All AHs so affected	Provision of sufficient allowance to cover transport expenses and livelihood expenses for one month.
Community			Rehabilitation/substitution of affected structures/utilities (i.e. mosques, roads, schools etc.
Vulnerable AH		AH below poverty line	Employment priority in project-related jobs.

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D. Compensation Assessment for Affected Crops and Wood Trees

The following four tables (A-2, A-3 and A-4) provide the bases for the compensation assessment of the affected crops and wood trees (no fruit trees affected) by the Okara Subproject.

Table A-1: Average Rate/Price for Crops in Subproject Area

Affected Crop	Average gross income			
	Rs/per acre	Rs/per ha	Rs/per m2	US\$/ha
Wheat	36,300	14,696	1.47	244.94
Maize	58,450	23,663	2.37	394.40
Potato	63,250	25,607	2.56	426.79
Vegetables	72,200	29,230	2.92	487.18
Sugarcane	48,500	19,635	1.96	327.26

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Table A-3: Relative Sizes of Affected Wood Trees by Maximum Heights and Girths

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No.	Name of Wood Tree	Small		Medium		Large	
		Height (m)	Girth (m)	Height (m)	Girth (m)	Height (m)	Girth (m)
1	Shisham	up to 3.8	up to 0.5	3.9 - 7.6	0.5 - 0.9	7.7 & above	1.0 & above
2	Eucalyptus	up to 4.6	up to 0.3	4.6 - 9.1	0.4 - 0.5	9.1 & above	0.5 & above
3	Kikar	up to 3.0	up to 0.5	3.1 - 6.1	0.5 - 0.9	6.1 & above	1.0 & above
4	Mulberry	up to 3.0	up to 0.5	3.1 - 6.1	0.5 - 0.9	6.1 & above	1.0 & above

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Table A-4: Current Market Values of Affected Wood Trees (Okara)

No.	Name of Wood Tree	Market Rates by Size of Wood Trees (Rs.)			
		Small	Medium	Large	Average
1	Shisham (Sisso)	5,000	7,000	9,000	7,000
2	Eucalyptus	2,500	3,500	6,000	4,000
3	Kikar (Acasia)	2,500	4,500	6,000	4,333
4	Mulberry	2,000	3,000	6,000	3,667

Some basic QUESTIONS related to the impacts compensation AND rehabilitation program for the project

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Question 1 - Do we need to have a land title in order to be compensated or rehabilitated?

Answer: No. Lack of formal legal rights (title) to land does not prevent APs from receiving at least rehabilitation assistance. All APs who were occupying or using the affected land at the time of the cut-off date (see above) will be entitled to compensation or at least rehabilitation under the project. Users of land with title or traditional rights (or who can prove they are legally using the land) who are affected by restricted access to, or use if, the land will be entitled to compensation for land and any assets on the land affected.

Users of land who do not have title or traditional rights to land will be provided full compensation for any structures, crops or trees on land affected by the project and if their access to, or use of, the land is affected, will receive rehabilitation for land losses either in form of replacement land (if available) or in form of a cash allowance for land-use loss.

Question 2 - Does compensation apply to my house or structures?

Answer: Yes. Houses and any other structures (small shops, animal sheds, etc) that will be affected by the project shall be compensated at replacement cost so that owners can build another structure of the same size and standard.

Question 3 - What about my crops and trees?

Answer: Your affected crops and trees will also be compensated at current market value. Compensation for crops will be based on the anticipated harvest at market value, while compensation for trees will be based on the type, age and productivity of each tree affected.

Question 4 - Does the above mean that anybody in your community can claim compensation or rehabilitation?

Answer: No. The entitled affected families are only those who were residing in project affected areas and had affected assets at the time the impacts assessment and the affected people census were carried out. The cut-off-date for eligibility for this subproject is 14th January 2007 when the impact survey and the affected people census were completed. Anybody who encroaches into the area after the cut-off-date will not be entitled to compensation or any other form of resettlement assistance.

Question 5 - Do we need to vacate and clear the affected properties immediately after they have been identified as needed by the project?

Answer: No. Clearing the affected areas will only take place AFTER the compensation or rehabilitation for affected land or other lost assets and the appropriate subsidies have been provided to you. You will have one month after the day on which compensation and rehabilitation was delivered to you, you will then have 1 month to clear the land. If you have not done so after a month the project will be allowed to enter your ex-property and clear the land for you.

Question 6 - If there is any disagreement regarding the way the compensation policy set up in the LARP has been implemented or any other issue relative to the compensation and rehabilitation program for the project do we have the right to complain, and if so how and where?

Answer: Yes. Any AP may file a complaint or grievance. APs will first lodge a complaint with the land acquisition collector and the project implementation unit in Okara district. If unanswered within 15 days, the complaint can then be lodged to NTDC's project management unit in Lahore. Finally if the grievance is still not settled within 1 month, the AP can seek redress at the appropriate court.

The village administrations and the Land Acquisition Coordination Committee (LACC) composed by senior members of the AP communities and by their elected representatives will assist the AP in these cases. The concerned land acquisition coordination committees will properly document all complaints and resolutions. APs will be exempted from all taxes, administrative and legal fees associated with resolving the dispute.

Question 7 - Who can we contact for more information about the project?

Answer: For further information about the project as a whole, the LARP for the Okara Subproject, or if you would like to receive a full copy of the Land Acquisition and

Resettlement Framework for the project, please contact as follows:

NATIONAL TRANSMISSION AND DISPATCH COMPANY

Address: WAPDA House, Lahore

Phone Number: +92-42-9202414

Contact person: M. Tahir Khan (Manager MTP)

Power Transmission Enhancement Program

APPENDIX 4: LIST OF AFFECTED HOUSEHOLDS BY NEW TOWERS AND TRANSMISSION LINES (NEW 220KV SUB-STATION AT OKARA)

APPENDIX-IV: LIST OF AFFECTED HOUSEHOLDS BY NEW TOWERS AND TRANSMISSION LINES (New 220kV Grid Station at Okara)

Tower No./Line No.	Affected Person/Household No.	Name of HH Head	Village	Name of	Land Under Tower (Three Crops) Crop	LxW(m)	Sq. Meters	ROW of Transmission Line (One Crop) Crop/s	LxW(m)	Sq. Meters	Total Land (Sq. Meters)
Line-A: Incoming Transmission Line (Existing Transmission Line to New 220 kV Grid Station):											
A-01	1	Rana Mohammad Anwa	Chak No. 52/2-L	Wheat	30x30	900	-	-	-	-	900
A-01-02	2	Sher Mohammad	Chak No. 52/2-L	-	-	-	0	Potato	82.0x10	820	820
A-01-02	3	Chaudhry Asghar Ali	Chak No. 52/2-L	-	-	-	0	Wheat	80.0x10	800	800
A-02	4	Ch. Saeed Ahmad	Chak No. 52/2-L	Wheat	30x30	900	0	Wheat	30.0x10	300	1,200
A-02-03	5	Haji Saeed Numberdar	Chak No. 52/2-L	-	-	-	0	Vegetables	150.0x10	1,500	1,500
A-02-03	6	Rashid Ahmad Arain	Chak No. 52/2-L	-	-	-	0	Vegetables	63.0x10	630	630
A-02-03	7	Rana Shabbir Khan	Chak No. 52/2-L	-	-	-	0	Vegetables	40.0x10	400	400
A-03	8	Mohammad Fiaz	Chak No. 52/2-L	Wheat	30x30	900	0	Veg+Fodder	70.0x10	700	1,600
A-03-04	9	Rahim Bukhsh	Chak No. 52/2-L	-	-	-	0	Wht+Fodder	260.4x10	2,604	2,604
A-04	10	Khushi Mohammad	Chak No. 52/2-L	Potato	30x30	900	0	Potato	30.0x10	300	1,200
A-04-05	11	Rana Wakeel Khan	Chak No. 52/2-L	-	-	-	0	Wht+Vegetables	160.0x10	1,600	1,600
A-04-05	12	Mukhtar Malik	Chak No. 52/2-L	-	-	-	0	Wht+Vegetables	150.0x10	1,500	1,500
A-05	13	Ghulam Muhammad	Chak No. 52/2-L	Wheat	30x30	900	0	Wht+Vegetables	40.0x10	400	1,300
A-05-06	14	Sardar Muhammad	Chak No. 52/2-L	-	-	-	0	Potato+Wht+Veg	300.0x10	3,000	3,000
A-06	15	Muhammad Hameed	Chak No. 52/2-L	Wheat	30x30	900	0	Wht+Vegetables	150.0x10	1,500	2,400
A-06-07	16	Allah Din	Chak No. 52/2-L	-	-	-	0	Potato+Wht+Veg	170.0x10	1,700	1,700
A-07	17	Muhammad Khan	Chak No. 50/2-L	Potato	30x30	900	0	Potato+Wheat	160.0x10	1,600	2,500
A-07-08	18	Mohammad Javed	Chak No. 50/2-L	-	-	-	0	Wheat+Mustard	180.0x10	1,800	1,800
A-08	19	Allah Ditta Bhatti	Chak No. 50/2-L	Sugarcane	30x30	900	0	Wheat+Sugarcane	230.0x10	2,300	3,200
A-08-09	20	Muhammad Hussain	Chak No. 50/2-L	-	-	-	0	Wheat	10.0x10	100	100
A-09	21	Haji Abdul Hameed	Chak No. 50/2-L	Wheat	30x30	900	0	Wheat+Sugarcane	190.0x10	1,900	2,800
A-09-10	22	Allah Ditta Arain	Chak No. 50/2-L	-	-	-	0	Wheat+Sugarcane	140.0x10	1,400	1,400
A-10	23	Rana Naseer Din	Chak No. 50/2-L	Wheat	30x30	900	0	Wheat	110.0x10	1,100	2,000
A-10-11	24	Jamil Ahmad	Chak No. 50/2-L	-	-	-	0	Wheat+Sugarcane	220.0x10	2,200	2,200
A-11	25	Muhammad Din	Chak No. 50/2-L	Wheat	30x30	900	0	Wheat	150.0x10	1,500	2,400
A-11-12	26	Fazal Din Jatt	Chak No. 50/2-L	-	-	-	0	Sugarcane	197.0x10	1,970	1,970
A-12	27	Habib s/o Ashraf	Chak No. 50/2-L	Sugarcane	30x30	900	0	Sugarcane	90.0x10	900	1,800
A-12-13	28	Malik Munawar	Chak No. 49/2-L	-	-	-	0	Wheat+Sugarcane	240.0x10	2,400	2,400
A-13	29	Abdul Majeed	Chak No. 49/2-L	Wheat	30x30	900	0	Wheat	120.0x10	1,200	2,100
A-13-14	30	Qazi Mohammad Bashir	Chak No. 50/2-L	-	-	-	0	Wheat	223.0x10	2,230	2,230
A-14	31	Muhammad Iqbal Pir	Chak No. 50/2-L	Wheat	30x30	900	0	Sugarcane	150.0x10	1,500	2,400
Sub-Total (a): Line A (Incoming):						12,600	-	-	41,854	54,454	
Line-B: Outgoing Transmission Line (New 220 kV Grid Station to Existing Transmission Line):											
B-01	32	Abu Saeed s/o A. Aziz	Chak No. 5-A/4-L	Wheat	30x30	900	-	-	-	-	900
B-01-02	33	Munir Ahmad	Chak No. 52/2-L	-	-	-	-	Vegetables	180.0x10	1,800	1,800
B-01-02	34	Abdul Rasheed	Chak No. 52/2-L	-	-	-	-	Potato	30.0x10	300	300
B-02	35	Rana Shahid Mehdi	Chak No. 52/2-L	Wheat	30x30	900	-	-	30.0x10	300	1,200
B-02-03	36	Muhammad Din	Chak No. 52/2-L	-	-	-	-	Potato+Vegetables	160.0x10	1,600	1,600
B-02-03	37	Muhammad Arshad	Chak No. 52/2-L	-	-	-	-	Wheat	120.0x10	1,200	1,200
B-03	38	Rana Abdul Hameed	Chak No. 52/2-L	Wheat	30x30	900	0	Wheat	150.0x10	1,500	2,400
B-03-04	39	Muhammad Ashraf	Chak No. 52/2-L	-	-	-	0	Wheat	160.0x10	1,600	1,600
B-04	40	Saeed Jatt	Chak No. 52/2-L	Wheat	30x30	900	0	Wheat+Sugarcane	75.0x10	750	1,650
B-4-05	41	Rao Baqir Ali	Chak No. 52/2-L	-	-	-	-	Potato+Vegetables	160.0x10	1,600	1,600
B-04-05	42	Ghulam Muhammad	Chak No. 52/2-L	-	-	-	-	Wheat+Vegetables	40.0x10	400	400
B-05	43	Mustafa s/o Sher Mohd	Chak No. 52/2-L	Wheat	30x30	900	0	Wheat	90.0x10	900	1,800
B-05-06	44	Mohammad Bakhs	Chak No. 52/2-L	-	-	-	-	Wheat+Potato	140.0x10	1,400	1,400
B-05-06	45	Zahid Khan	Chak No. 52/2-L	-	-	-	-	Wheat	90.0x10	900	900
B-06	46	Akbar Khan	Chak No. 52/2-L	Wheat	30x30	900	0	Wheat	90.0x10	900	1,800
B-06-07	47	Jamal Din	Chak No. 52/2-L	-	-	-	-	Wheat	220.0x10	2,200	2,200
B-07	48	Fazal Din	Chak No. 52/2-L	Wheat	30x30	900	0	Wheat	70.0x10	700	1,600
B-07-08	49	Mohammad Asghar	Chak No. 50/2-L	-	-	-	-	Wheat+Sugarcane	210.0x10	2,100	2,100
B-08	50	Mohammad Iqbal Jatt	Chak No. 50/2-L	Wheat	30x30	900	0	Wheat	110.0x10	1,100	2,000
B-08-09	51	Sanaullah Sindhu	Chak No. 50/2-L	-	-	-	-	Wheat+Sugarcane	200.0x10	2,000	2,000
B-09	52	Fazal Din	Chak No. 50/2-L	-	-	-	-	-	-	-	900
B-09-10	53	Allah Ditta Bhatti	Chak No. 50/2-L	-	-	-	-	Wheat+Sugarcane	240.0x10	2,400	2,400
B-10	54	Khushi Mohammad	Chak No. 50/2-L	Wheat	30x30	900	0	Wheat+Sugarcane	307.6x10	3,076	3,976
B-11	55	Jumma Khan	Chak No. 50/2-L	-	-	-	0	Wheat+Sugarcane	302.4x10	3,024	3,924
B-12	56	Fazlur Rahman	Chak No. 49/2-L	Sugarcane	30x30	900	0	Wheat+Sugarcane	290.0x10	2,900	3,800
B-13	57	Peer Mohammad	Chak No. 49/2-L	Sugarcane	30x30	900	0	Wheat+Sugarcane	291.2x10	2,912	3,812
B-14	58	Ataullah	Chak No. 49/2-L	Wheat	30x30	900	0	Wheat	348.8x10	3,488	4,388
B-15	59	Atta Mohammad	Chak No. 49/2-L	Sugarcane	30x30	900	0	Wheat+Sugarcane	120x10	1,200	2,100
Sub-Total (a): Line B (Outgoing):						13,500	-	-	42,250	55,750	
Total Square Meters (a+b):						26,100	3 Crops Affected	One Crop Affected	84,104	110,204	
Total Hectares (Converted):						2.61	3 Crops Affected	One Crop Affected	8.41	11.02	

APPENDIX 5: TERMS OF REFERENCE FOR EXTERNAL MONITORING CONSULTANT

The part time consultant will be responsible for the external evaluation of the implementation of the resettlement plan. S/he has the following general tasks:

- I. To review and verify the progress in resettlement implementation as outlined in the Resettlement Plan/s specific for the project components.
- II. To assess resettlement efficiency, effectiveness, impacts and sustainability, drawing both on policies and practices and to suggest any corrective measures, if necessary.

A. Specific Tasks

1. Design an appropriate set of indicators for gathering and analyzing information on resettlement impacts; the indicators shall include the following issues:
 - Budget and timeframe regarding land acquisition and crop/tree compensations,
 - Delivery of entitlement packages in a timely and efficient manner,
 - Satisfaction of affected people on entitlements, compensation,
 - Satisfaction of APs with grievance procedures and outcomes,
 - Socio-economic conditions of the APs in the post-resettlement period,
 - Level of satisfaction of APs in the post resettlement period.
2. Review results of internal monitoring and verify claims through random checking at the field level to assess whether resettlement objectives have been generally met. Involve the APs and community groups in assessing the impact of resettlement for monitoring and evaluation purposes.
4. Conduct both individual and community level impact analysis through the use of formal and informal surveys, key informant interviews, focus group discussions and community public meeting to assess the impact of resettlement.
5. Identify the strengths and weaknesses of basic resettlement objectives and approaches, implementation strategies, including institutional issues, and provides suggestions for improvements in future resettlement policy making and planning. Directly feedback the results and recommendations to NTDC/PMU and ADB.

B. Qualifications

A local expert can conduct this independent evaluation. The consultant must have at least 5 years experience in project monitoring work and a MA in Social Science. The consultant should have experience in resettlement management and monitoring work in ADB-financed projects.

C. Implementation Schedule and Inputs

The expert will be hired for one month for intermittent input over a period of six months. The expert is expected to conduct at least one monitoring missions for the first year of RP implementation for two to three weeks and then towards the end for one week for the remainder period.

D. Reporting Requirements

The monitoring expert will review the status of the RP implementation in light of the targets, budget and duration as outlined in the Resettlement Plan for the hydropower project site. The expert will submit reports to the ADB and PMU after each monitoring mission and determine the implementation status and quality of resettlement operations and also assess whether resettlement goals have been achieved. He will suggest suitable recommendations for improvement.

The external monitoring expert will prepare a Final Report on the subproject's LARP monitoring work at the end of the contract period indicating the project performance and lessons learned for future projects of this kind.

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Affected Village	No. and Type of Affected Trees				
	Shisham	Eucalyptu	Kikar	Mulberry	Total
Chak 52/2-L	49	25	20	2	96
Chak 50/2-L	34	28	18	9	89
Chak 49/2-L	22	4	11	9	46
Chak 5A/4-L	0	0	0	0	0
Total	105	57	49	20	231
%	45.5	24.7	21.2	8.6	100.0

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Maximum Heights and Girths (Okara)

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Maximum Heights and Girths (Okara)

No	Name of Wood Tree	Small		Medium		Large	
		Height (m)	Girth (m)	Height (m)	Girth (m)	Height (m)	Girth (m)
1	Shisham	< up to 3.8	up to < 0.5	3.9 - 7.6	0.5 - 0.9	> 7.7 & above	> 1.0 & above

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1	Shisham	< up to 3.8	up to < 0.5	3.9 - 7.6	0.5 - 0.9	> 7.7 & above	> 1.0 & above
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2	Eucalyptus	<up to 4.6	< up to 0.3	4.6 - 9.1	0.4 - 0.5	> 9.1 & above	> 0.5 & above

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2	Eucalyptus	<up to 4.6	< up to 0.3	4.6 - 9.1	0.4 - 0.5	> 9.1 & above	> 0.5 & above

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3	Kikar	<up to 3.0	< up to 0.5	3.1 - 6.1	0.5 - 0.9	> 6.1 & above	> 1.0 & above

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3	Kikar	<up to 3.0	< up to 0.5	3.1 - 6.1	0.5 - 0.9	> 6.1 & above	> 1.0 & above

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4	Mulberry	<up to 3.0	< up to 0.5	3.1 - 6.1	0.5 - 0.9	> 6.1 & above	> 1.0 & above

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4	Mulberry	<up to 3.0	< up to 0.5	3.1 - 6.1	0.5 - 0.9	> 6.1 & above	> 1.0 & above

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Table 8.2: Average Rate/Price for Trees in Subproject Area

Village	Average tree price (Rs) by tree type			
	Eucalyptus	Shisham	Kikar	Mulberry
Chak 52/2-L	4,000	6,500	4,600	2,250
Chak 50/2-L	2,800	6,750	4,500	2,100
Chak 49/2-L	2,600	6,400	4,250	2,800
Total	11,400	19,650	13,350	7,150
Average	3,800	6,550	4,450	2,350

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E.	Contingency (10%)	0.10	-	26,500,791	3,188,7612,65
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					0,079		
Total Amount (Pak. Rupees):				-	-	-	34,537,693 35,076,375

Item No.	Item	No.	Unit	Rs/Unit	Total Rs	Total US\$
A.	Assets				1,572,913	26,215
A.1	Trees:				1,183,400	19,723
	Eucalyptus	57	tree	3,800	216,600	3,610
	Shisham	105	tree	6,550	687,750	11,463
	Kikar	49	tree	4,450	218,050	3,634
	Mulberry	20	tree	3,050	61,000	1,017
A.2	Crops:				389,513	6,492
	Wheat/maize	72,034	m ²	2.37	170,721	2,845
	Potato	6,520	m ²	2.56	16,691	278
	Vegetable	9,486	m ²	2.92	27,699	462
	Sugar cane	23,664	m ²	1.96	46,381	773
	Additional two crops (average) ¹	52,200	m ²	2.45	128,021	2,134
B.	Other				2,170,200	36,170
B.1	Rehabilitation of agri. land (trans. line)	11.2	ha	60,000	670,200	11,170
B.2	Resettlement specialist (impl.)	3	pers/mth	300,000	900,000	15,000
B.3	External monitoring	1	pers/mth	300,000	300,000	5,000
B.4	Training of NTDC staff (incl. materials)	1	LS	300,000	300,000	5,000
C	Administration costs (20%)	0.20	LS	3,743,113	748,623	12,477
D.	Subtotal (A+B+C)				4,491,735	74,862
E.	Contingency (15%)	0.15	LS	5,240,358	786,054	13,101
	TOTAL (D+E)				5,277,789	87,963

Notes: 1 – the total area of crop affected (towers and lines) and to be compensated is 111,704m². Compensation for crops lost in the area under towers is for three crops, while compensation for crops lost to stringing of the lines is for one crop. Therefore additional compensation of 52,200m² of crop is required (i.e. area under towers is 26,100m², of which the first 26,100m² is included in the total of 111,704m²)