PAKISTAN
WATER AND POWER DEVELOPMENT AUTHORITY

GHAZI - BARothA
HYdropower PROJECT

RESSETLEMENT ACTION PLAN

FILE COPY

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# Table of Contents

## Chapter 1

### Introduction

1.1 Need for Power

1.2 Project Description
   - 1.2.1 General
   - 1.2.2 The Barrage
   - 1.2.3 The Power Channel
   - 1.2.4 The Power Complex

1.3 Efforts to Minimise Resettlement and Its Impact

1.4 Purpose of Resettlement Action Plan

## Chapter 2

### Objectives, Entitlements and Implementation Strategy

2.1 Objectives

2.2 Operational Framework

2.3 Resettlement-Related Impacts
   - 2.3.1 Loss of Land
   - 2.3.2 Loss of Farm Produce
   - 2.3.3 Loss of Privately-Owned Infrastructure
   - 2.3.4 Loss of Residential Houses
   - 2.3.5 Loss of Public Infrastructure
   - 2.3.6 Loss of Income for Rural Landless Groups
   - 2.3.7 Impact on Woman

2.4 Entitlement Policy and Packages
   - 2.4.1 Entitlement Policy
   - 2.4.2 Entitlement Packages

2.5 Implementation Strategy

2.6 Certificates of Compensation

2.7 Monitoring and Evaluation
## CHAPTER 3
### ORGANISATIONAL FRAMEWORK AND RESPONSIBILITIES

#### 3.1 ORGANISATIONAL FRAMEWORK

- **3.2** WAPDA [3.1]
  - **3.2.1** Chief Engineer & Project Director [3.1]
  - **3.2.2** Resettlement and Environmental Review Committee [3.2]
  - **3.2.3** Project Resettlement Organisation [3.2]

- **3.3** PROVINCIAL/DISTRICT GOVERNMENT STAFF [3.7]
  - **3.3.1** Land Acquisition Collector and Staff [3.7]

- **3.4** PROJECT NON-GOVERNMENTAL ORGANISATION (PNGO) [3.8]

- **3.5** WAPDA ENVIRONMENTAL CELL [3.11]

- **3.6** MONITORING CONSULTANTS [3.11]

- **3.7** EXTERNAL PANEL OF EXPERTS [3.12]

- **3.8** TRAINING [3.13]
  - **3.8.1** Training Workshops [3.13]
  - **3.8.2** Other Training [3.14]

## CHAPTER 4
### COMMUNITY PARTICIPATION

#### 4.1 GOALS [4.1]

#### 4.2 VILLAGE SCOPING SESSIONS [4.1]

#### 4.3 WOMEN'S PARTICIPATION [4.2]

#### 4.4 FINDINGS OF THE SCOPING SESSIONS [4.2]

#### 4.5 NON-GOVERNMENTAL ORGANISATIONS [4.2]

#### 4.6 PROJECT NON-GOVERNMENTAL ORGANISATION (PNGO) [4.4]

#### 4.7 PROJECT CONTACT COMMITTEES [4.4]

#### 4.8 RESETTLEMENT VILLAGES [4.5]

#### 4.9 FUTURE SCOPING SESSIONS [4.5]
CHAPTER 5
SOCIO-ECONOMIC SURVEYS

5.1 GENERAL

5.2 SOCIO-ECONOMIC SURVEY DURING FEASIBILITY STUDIES
5.2.1 General
5.2.2 Social Survey of Villages of the Project Area
5.2.3 Social Survey of Women in the Project Area
5.2.4 Surveys of Direct Affectees

5.3 FOCUSED CENSUS AND SAMPLE SURVEYS
5.3.1 Purpose of Census and Surveys

CHAPTER 6
POLICY AND LEGAL FRAMEWORK

6.1 INTRODUCTION

6.2 LAND ACQUISITION ACT

6.3 LEGAL AND ADMINISTRATIVE PROCEDURES

6.4 PERSONS ENTITLED TO COMPENSATION

6.5 VALUATION OF LAND COMPENSATION

6.6 LAND FOR LAND COMPENSATION

6.7 TIME FRAME FOR PAYMENT OF COMPENSATION

6.8 INSTITUTIONAL ARRANGEMENTS
6.8.1 Land Acquisition Collectors
6.8.2 WAPDA Staff

6.9 POTENTIAL PROBLEMS WITH VALUATION AND COMPENSATION

6.10 MEASURES TO AVOID POTENTIAL PROBLEMS

6.11 TRANSPARENCY OF COMPENSATION PROCESS

6.12 SUPPORT DURING TRANSITION PERIOD
### CHAPTER 7
**ALTERNATIVE SITES AND RESETTLEMENT PROPOSALS**

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.1</td>
<td>INTRODUCTION</td>
<td>7.1</td>
</tr>
<tr>
<td>7.2</td>
<td>ALTERNATIVE SITING OF THE PROJECT COMPONENTS: SOCIAL AND RESETTLEMENT IMPLICATIONS</td>
<td>7.1</td>
</tr>
<tr>
<td>7.2.1</td>
<td>Alternative Sites for the Barrage</td>
<td>7.1</td>
</tr>
<tr>
<td>7.2.2</td>
<td>Alternative Sites for the Power Channel</td>
<td>7.1</td>
</tr>
<tr>
<td>7.2.3</td>
<td>Alternative Sites for the Power Complex</td>
<td>7.2</td>
</tr>
<tr>
<td>7.3</td>
<td>ALTERNATIVE RESETTLEMENT PROPOSALS</td>
<td>7.2</td>
</tr>
<tr>
<td>7.3.1</td>
<td>Introduction</td>
<td>7.2</td>
</tr>
<tr>
<td>7.3.2</td>
<td>Out-of-Area Resettlement</td>
<td>7.3</td>
</tr>
<tr>
<td>7.3.3</td>
<td>Developing the Spoil Banks for Cultivation</td>
<td>7.3</td>
</tr>
</tbody>
</table>

### REFERENCES

### CHAPTER 8
**VALUATION OF LOST ASSETS**

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.1</td>
<td>GENERAL</td>
<td>8.1</td>
</tr>
<tr>
<td>8.2</td>
<td>VALUATION OF LAND</td>
<td>8.1</td>
</tr>
<tr>
<td>8.3</td>
<td>VALUATION OF BUILDINGS</td>
<td>8.3</td>
</tr>
<tr>
<td>8.4</td>
<td>VALUATION OF CROPS, ORCHARDS AND OTHER TREES</td>
<td>8.4</td>
</tr>
</tbody>
</table>

### CHAPTER 9
**LAND TENURE, ACQUISITION AND TRANSFER**

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.1</td>
<td>LAND TENURE</td>
<td>9.1</td>
</tr>
<tr>
<td>9.2</td>
<td>LAND ADMINISTRATION AND MAPPING</td>
<td>9.2</td>
</tr>
<tr>
<td>9.3</td>
<td>LAND ACQUISITION</td>
<td>9.2</td>
</tr>
<tr>
<td>9.4</td>
<td>LAND TRANSFER</td>
<td>9.2</td>
</tr>
<tr>
<td>9.4.1</td>
<td>Private Land Transfer</td>
<td>9.2</td>
</tr>
<tr>
<td>9.4.2</td>
<td>Acquired Land Transfer</td>
<td>9.3</td>
</tr>
</tbody>
</table>

### CHAPTER 10
**ACCESS TO TRAINING, EMPLOYMENT AND CREDIT**

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.1</td>
<td>VOCATIONAL TRAINING</td>
<td>10.1</td>
</tr>
<tr>
<td>10.2</td>
<td>EMPLOYMENT OPPORTUNITIES</td>
<td>10.1</td>
</tr>
</tbody>
</table>
CHAPTER 11
SHELTER INFRASTRUCTURE AND SOCIAL SERVICES

11.1 INTRODUCTION
11.2 RESETTLEMENT VILLAGES
11.3 INTEGRATED REGIONAL DEVELOPMENT PLAN
11.4 VILLAGE ELECTRIFICATION
11.5 VILLAGE LINK ROADS

CHAPTER 12
ENVIRONMENTAL PROTECTION AND MANAGEMENT

12.1 INTRODUCTION
12.2 RELOCATION OF GRAVES
12.3 RELOCATION OF MOSQUE
12.4 RELOCATION AND REPLACEMENT OF INFRASTRUCTURE FACILITIES
12.5 SAFETY MEASURES
12.6 PUBLIC MOVEMENTS
12.7 CULTURAL PROPERTIES

REFERENCES

CHAPTER 13
IMPLEMENTATION SCHEDULE, MONITORING AND EVALUATION

13.1 GENERAL
13.2 MACRO LEVEL IMPLEMENTATION SCHEDULE
13.2.1 Overall Schedule
13.2.2 Land Acquisition
13.2.3 Relocation of Houses
13.2.4 Transfer Arrangements
13.2.5 Replacement and Relocation of Facilities
13.2.6 Rehabilitation of Spoil Banks Including Tubewells
13.2.7 Relocation of Graves
CHAPTER 14
RESETTLEMENT-RELATED COSTS

14.1 GENERAL 14.1
14.2 LAND ACQUISITION COST 14.2
14.3 REPLACEMENT COST OF RESIDENTIAL HOUSES 14.2
14.4 COST OF PRIVATELY-OWNED INFRASTRUCTURE 14.2
14.5 COMPENSATION FOR FARM PRODUCE 14.3
14.6 RELOCATION OF COMMUNITY INFRASTRUCTURES 14.3
14.7 COST OF RESETTLEMENT VILLAGES 14.4
14.8 COST OF DEVELOPMENT OF SPOIL BANKS 14.4
14.9 TRUST FUND FOR PNGO 14.4
14.10 COST RELATED TO THE INTEGRATED REGIONAL DEVELOPMENT PLAN 14.4
14.11 COSTS ASSOCIATED WITH WORK PERMITS 14.4
14.12 COST OF STUDIES 14.4
14.13 MONITORING COSTS 14.4
14.14 WAPDA'S ADMINISTRATION COSTS 14.5
14.15 CONTINGENCIES 14.5
14.16 TOTAL RESETTLEMENT-RELATED COSTS 14.5

TABLES DRAWINGS

(vi)
### LIST OF TABLES

<table>
<thead>
<tr>
<th>No.</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Principal Project Data</td>
</tr>
<tr>
<td>2.1</td>
<td>Land Required for the Project</td>
</tr>
<tr>
<td>2.2</td>
<td>Acquisition of Privately-Owned Land</td>
</tr>
<tr>
<td>2.3</td>
<td>Village-wise Loss of Land in Comparison to Total Land</td>
</tr>
<tr>
<td>2.4</td>
<td>Owners of Land to be Acquired</td>
</tr>
<tr>
<td>2.5</td>
<td>Distribution of Affectees by Land Operational Units</td>
</tr>
<tr>
<td>2.6</td>
<td>Number of Affectees having Land Additional to that being Acquired</td>
</tr>
<tr>
<td>2.7</td>
<td>Income of Affectees</td>
</tr>
<tr>
<td>2.8</td>
<td>Income of Affectees Losing all Land</td>
</tr>
<tr>
<td>2.9</td>
<td>Private Infrastructures Affected other than Houses</td>
</tr>
<tr>
<td>2.10</td>
<td>Entitlement Packages</td>
</tr>
<tr>
<td>4.1</td>
<td>Summary of Scoping Sessions Held</td>
</tr>
<tr>
<td>13.1</td>
<td>Schedule for Project Implementation and Related Resettlement Activities</td>
</tr>
<tr>
<td>13.2</td>
<td>Schedule for Project Implementation and Related Resettlement Activities - Micro Level</td>
</tr>
<tr>
<td>13.3</td>
<td>Impacts, Resolution and Monitoring</td>
</tr>
<tr>
<td>14.1</td>
<td>Resettlement Costs</td>
</tr>
</tbody>
</table>

(vii)
## LIST OF DRAWINGS

<table>
<thead>
<tr>
<th>No.</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Location Plan</td>
</tr>
<tr>
<td>1.2</td>
<td>Project Layout Plan</td>
</tr>
<tr>
<td>1.3</td>
<td>Barrage Layout Plan</td>
</tr>
<tr>
<td>1.4</td>
<td>Power Channel Cross Sections</td>
</tr>
<tr>
<td>1.5</td>
<td>Power Complex Layout Plan</td>
</tr>
<tr>
<td>3.1</td>
<td>Project Entities - Resettlement and Environment</td>
</tr>
<tr>
<td>3.2</td>
<td>Project Resettlement Organisation</td>
</tr>
<tr>
<td>7.1</td>
<td>Barrage Alternative Sites A to E</td>
</tr>
<tr>
<td>7.2</td>
<td>Alternative Alignments of Power Channel</td>
</tr>
<tr>
<td>7.3</td>
<td>Power Complex Alternative Sites</td>
</tr>
<tr>
<td>7.4</td>
<td>Power Channel Plan &amp; Longitudinal Profile (RD 8+150 to RD 12+200)</td>
</tr>
<tr>
<td>7.5</td>
<td>Power Channel Plan &amp; Longitudinal Profile (RD 12+200 to RD 16+200)</td>
</tr>
<tr>
<td>7.6</td>
<td>Power Channel Plan &amp; Longitudinal Profile (RD 36+800 to RD 40+800)</td>
</tr>
<tr>
<td>ABBREVIATIONS</td>
<td>QUICK DEFINITION</td>
</tr>
<tr>
<td>---------------</td>
<td>------------------</td>
</tr>
<tr>
<td>AB</td>
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</tr>
<tr>
<td>AC</td>
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</tr>
<tr>
<td>B&amp;AO</td>
<td>Budget and Accounts Officer</td>
</tr>
<tr>
<td>BHU</td>
<td>Basic Health Unit</td>
</tr>
<tr>
<td>CE&amp;PD</td>
<td>Chief Engineer and Project Director</td>
</tr>
<tr>
<td>EPS</td>
<td>Entitled Persons</td>
</tr>
<tr>
<td>GBHP</td>
<td>Ghazi Barotha Hydropower Project</td>
</tr>
<tr>
<td>GOP</td>
<td>Government of Pakistan</td>
</tr>
<tr>
<td>IRDP</td>
<td>Integrated Regional Development Plan</td>
</tr>
<tr>
<td>IUCN</td>
<td>International Union for the Conservation of Nature and Natural Resources</td>
</tr>
<tr>
<td>LAC</td>
<td>Land Acquisition Collector</td>
</tr>
<tr>
<td>LHV</td>
<td>Lady Health Visitor</td>
</tr>
<tr>
<td>LVC</td>
<td>Land Valuation Committee</td>
</tr>
<tr>
<td>MC</td>
<td>Monitoring Consultants</td>
</tr>
<tr>
<td>MEU</td>
<td>Monitoring and Evaluation Unit</td>
</tr>
<tr>
<td>MIS</td>
<td>Management Information System</td>
</tr>
<tr>
<td>NGO</td>
<td>Non-Governmental Organization</td>
</tr>
<tr>
<td>NRSP</td>
<td>National Rural Support Programme</td>
</tr>
<tr>
<td>NWFP</td>
<td>North West Frontier Province</td>
</tr>
<tr>
<td>PAF</td>
<td>Pakistan Air Force</td>
</tr>
<tr>
<td>PAPs</td>
<td>Project Affected Persons</td>
</tr>
<tr>
<td>PCC</td>
<td>Project Contact Committee</td>
</tr>
<tr>
<td>PIC</td>
<td>Public Information Centre</td>
</tr>
<tr>
<td>PNGO</td>
<td>Project Non-Governmental Organization</td>
</tr>
<tr>
<td>PRO</td>
<td>Project Resettlement Organization</td>
</tr>
<tr>
<td>RAP</td>
<td>Resettlement Action Plan</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Full Form</td>
</tr>
<tr>
<td>--------------</td>
<td>-----------</td>
</tr>
<tr>
<td>RB</td>
<td>Requiring Body</td>
</tr>
<tr>
<td>RERC</td>
<td>Resettlement and Environmental Review Committee</td>
</tr>
<tr>
<td>ROR</td>
<td>Record of Rights</td>
</tr>
<tr>
<td>ROW</td>
<td>Right of Way</td>
</tr>
<tr>
<td>SSB</td>
<td>Social Science Branch</td>
</tr>
<tr>
<td>TUA</td>
<td>Tubewell Users Association</td>
</tr>
<tr>
<td>WAPDA</td>
<td>Water and Power Development Authority</td>
</tr>
<tr>
<td>WEC</td>
<td>WAPDA Environmental Cell</td>
</tr>
</tbody>
</table>
NEED FOR POWER

In 1993-94 the peak demand for electricity in Pakistan was about 9,000 MW. By the year 2000, estimated peak demand is expected to rise to 15,000 MW, an increase of 6,000 MW. The measures being adopted to conserve energy may reduce the additional demand by up to 1,000 MW. There is thus an imperative need for enhanced generation capacity.

Under all alternate power generation scenarios, hydropower has been shown to be the most attractive option for meeting future demand. Generation expansion studies have shown that, with the Ghazi-Barotha Hydropower Project included in the list of candidate plants, it was promptly selected as part of the least-cost expansion programme for the national power system. This result remained valid for the entire range of sensitivity analyses carried out.

PROJECT DESCRIPTION

The Ghazi-Barotha Hydropower Project is a major run-of-the river power project, designed to utilise for power generation the head available in the Indus river between Tarbela dam and its confluence with the Haro river. In this reach, the Indus drops by about 76 m in a distance of 63 km. The Project will have an installed generating capacity of 1,450 MW.

The Project will have three main components: a barrage, a power channel and a power complex. The relatively flat slope of the power channel will permit most of the river drop to be utilised for power generation.

The Barrage. The barrage will be located about 7 km downstream of Tarbela dam, just upstream of the town of Ghazi. It will comprise a concrete gated section containing twenty radial gates, a dividing island, an undersluice section with eight control gates, a head regulator to control flows into the power channel, guide banks, a fuse plug and a downstream separation dyke. The barrage will also include a road crossing of the Indus river.

The barrage will create a pond that will extend upstream to the tailwaters of Tarbela dam. The pond will have a surface area of about 1,140 ha. The land required for the barrage pond and structures is mostly in the river bed and non-proprietary.

The Power Channel. The power channel will convey water from the barrage pond to the power complex. It will be a concrete-lined channel with a capacity of 1,600 cumecs, trapezoidal in cross section, 94.4 m wide at the water surface and 9 m deep.
Along its route, the power channel will be provided with a railway bridge, 34 road bridges and 12 pedestrian bridges, as well as 26 superpassages and a culvert for carrying flows in seasonal streams (nullahs).

The excavation of the channel will generate about 70 M cu m of surplus material, most of which will be spoiled on lands and terraces adjacent to the power channel. The spoil banks will be graded, covered with topsoil (stripped from the channel and from adjacent spoil areas), provided with tubewell irrigation and sold back to the affected farmers.

The Project will require about 1,000 ha of land permanently for the power channel. In addition, about 1,640 ha will be used for the spoil banks to be sold back to the affectees.

The Power Complex. The power complex will be located near the village of Barotha, on the left bank of the Indus river, just upstream of the confluence with the Haro river. It will consist of a forebay, two headponds, a spillway, an intake structure, five penstocks, a powerhouse, a tailrace channel and a switchyard.

About 850 ha of land will be required for the power complex and its headponds. Another 100 ha will be required for the power complex colony and a new access road from the Haji Shah-Attock road to allow heavy construction traffic to bypass Attock City.

EFFORTS TO MINIMISE RESETTLEMENT AND ITS IMPACT

Throughout the studies for the Ghazi-Barotha Project, emphasis has been placed on early identification of environmental and resettlement impacts. Environmental and resettlement considerations have been included in the process of selection of alternatives during the siting of structures, design of components and development of operational concepts.

The impact of this approach is exemplified by the alignment selected for the power channel. It is noteworthy that the alignment option that was selected directly addresses major resettlement concerns in two ways. One, minimal resettlement will take place because the adopted alignment avoids all villages by shifting the power channel to higher ground away from the river. This option significantly increases the requirement for excavation and therefore the overall cost of the Project, but decreases its negative social impact. Two, the Project will resettle the affectees in the Project area near their homes on new spoil banks land provided by the Project along the power channel. This is an innovative approach which avoids the option of resettling people in host communities with all its attendant difficulties.

Another major planning activity has been early and frequent interactions with the local people. This has kept the planning
team attuned to public concerns and desires, and facilitated the participation of the local population in the planning process. As a consequence of this approach, it has been possible to identify and avoid, or at least mitigate, the potentially serious social effects.

RESETTLEMENT ACTION PLAN OBJECTIVES

The Project has been designed under policy guidelines and procedures developed by the Government of Pakistan and World Bank for Projects involving involuntary resettlement. These include the World Bank's Operational Directive 4.30. The design of the Project and the development of the Project Resettlement Action Plan have been guided by the following general policy objectives:

- Involuntary resettlement is an integral part of Project design, to be dealt with from the earliest stages of Project preparation.

- Involuntary resettlement should be avoided or minimised wherever feasible, exploring all viable alternative Project designs.

- Where unavoidable, resettlement plans should be conceived, developed and executed as development programmes, with resettlers provided sufficient investment resources and opportunities to share in Project benefits.

- Persons to be displaced should have their former living standards and income earning capacity improved, or at least restored, and should be provided adequate support during the transition period.

- Community participation should be encouraged in the planning and implementation of resettlement.

- Land, housing, infrastructure and other compensation should be provided to the adversely-affected population.

- The compensation process should be fully transparent.

- Given the growing requirements and complexity of resettlement in development projects, concerned government agencies and departments should upgrade their institutional capacity to design and implement Resettlement Action Plans.

SOCIO-ECONOMIC SURVEYS

The resettlement-related baseline data for the Project was collected from socio-economic surveys conducted during the planning stage as well as from the recent focused census and sample surveys.
During the feasibility studies, a detailed social survey of 15 villages in the Project area was carried out to assess the socio-economic impact of the Project. Two other surveys were also conducted, one a social survey of women in the Project area, and the other a survey of the direct affectees of the Project.

Finally, a focused census and sample surveys were initiated in June 1994 to update information on the Project affectees, to determine as precisely as possible the actual number of affectees, their socio-economic status, and the pattern of impact on various groups (owners, tenants, labourers, etc) with special attention to the impact on women.

RESETTLEMENT-RELATED IMPACTS

Loss of Land. A total of 4,770 ha of land will be required for the construction of the Project. Of this total, 3,130 ha will be permanently acquired for the physical components of the Project, while 1,640 ha will be temporarily acquired for building spoil banks along the power channel. About 1,313 ha of the land required for the construction of the Project is state-owned. Thus the net loss of privately-owned land to the Project will be 1,817 ha.

Most of the privately-owned land to be taken by the Project, about 81.9%, is barani land (rain-fed). The next largest category is uncultivable (14.7%), followed by irrigated land (3.4%).

A recent study into the productivity potential of the spoil banks has shown that the productivity of the irrigated spoil banks should be up to four times that of barani lands in the area. Thus the productivity of the 1,640 ha of spoil banks should be nearly double that of the 3,457 ha of land being acquired.

The estimate of 3,457 ha of privately-owned land to be acquired for the Project includes a provision of about 264 ha for acquisition of fragmented land and other contingencies. The remaining 3,193 ha of privately-owned land to be acquired for the Project on the basis of demarcation of the right-of-way is spread over 50 villages. The total landholding of these 50 villages is 42,129 ha. The land being acquired thus represents less than 8% of the total landholding of the affected villages.

Of this land, 90 ha pertain to shamilat (common) land which is jointly owned by the entire mouza (village) and is not a means of livelihood for any of its owners.

The remaining 3,103 ha of privately-owned land to be acquired consists of 3,600 land units (each being recorded as a land unit in the land revenue records), with a total of 26,378 owners. Of these, there are 6,503 owners who have ownership rights in more than one unit. There are thus 19,875 individuals who own the land to be acquired. A further 1,549 owners will lose only uncultivable land, which is not a means of livelihood for them.
Excluding those who lose only uncultivable land, the average cultivable landholding of the remaining 18,326 owners is only about 0.15 ha.

The large number of owners is due to the multiplicity of ownership resulting from inheritance over a number of generations. The average number of owners per land unit is 6.4. However, 3,055 of the units (84.9%) are farmed as a single operational unit.

The size of landholding being lost by the majority of these owners is so small that the resulting loss of income will not significantly affect their total income. The vast majority of these owners (16,463) have landholdings in addition to the land being acquired, with the average size of this additional landholding being 2.7 ha.

The number of owners who will be losing all of their landholdings is 3,412, of which those who do not have significant other sources of income is very small, estimated to be less than 100.

Loss of Farm Produce. Crops, orchards and other trees on land being acquired will also be lost. Where permitted by the construction schedule, farmers will be allowed to harvest crops.

Loss of Privately-Owned Infrastructure. In addition to houses, relatively little private infrastructure will be disrupted by the Project. This infrastructure will be replaced or compensated at replacement value.

Loss of Residential Houses. The Project will require the demolition and relocation of 110 residential structures between Ghazi and the tailrace outfall at Barotha. A total of 179 families (899 inhabitants) are involved in this resettlement.

Three resettlement villages are being established to house the majority of those losing residential houses. The remainder are widely scattered and will be resettled near their existing villages.

Loss of Public Infrastructure. The disruption of public infrastructure and social services is not insignificant. The major disruptions will be caused by the interception of the Grand Trunk Road and the main railway line by the power channel. In each case, a temporary diversion will be provided while a bridge is built. Bridges will also be provided for district and village link roads. Several of the bridges are being provided at locations where only footpaths presently exist.

Loss of Income for Rural Landless Groups. There are only 1,230 tenant farmers working on the land to be acquired. In addition, an estimated 195 permanent labour and 161 family labour works on the land.
Seasonal labour is employed particularly at sowing and harvest time. On average, seasonal labourer is estimated to be employed for about two months of a year. Up to 70% of the seasonal labour in a given year will not return the next year. Furthermore, the seasonal labourers will still have access to employment on the remaining 92% land of the villages in the Project area. Thus the impact on the seasonal labour is not expected to be significant. Most of these tenants and labourers (permanent as well as seasonal) are expected to be re-engaged for the labour-intensive irrigated agriculture to be carried out on the spoil banks.

**Impact on Women.** During the planning period, a social survey of women was undertaken to inform them about the Project through scoping sessions and to assess the Project's impact on them. The survey found women are active in performing not only their traditionally assigned domestic roles but they also contribute directly to the acquisition of household income. Women help to plant, harvest and process crops, care for poultry and livestock, and help to renovate their homes at least twice a year. Because women are involved in a range of activities, those whose homes and farms will be displaced will be broadly affected by the Project.

The survey also showed high illiteracy among women as well as inadequate health coverage, two areas where the Project will provide direct benefits to women through the Integrated Regional Development Plan. Results also show women practice saving money; therefore, credit schemes will also be designed to include women.

The focused census has indicated a significant ownership of land among women through inheritance. Of the total 19,875 affected land owners, 7,543 (38%) are women. Therefore the Project will take measures to ensure that women receive the compensation to which they are entitled, both in terms of cash and land.

**ENTITLEMENT POLICY**

The Project is committed to providing entitlements to persons who lose their land or other property as well as to those others whose livelihood is directly affected by the acquisition of land. The provisions of Pakistan's laws that apply to such situations will be followed.

These entitlements will be supplemented by entitlements for landless affected people and by Project activities such as training, work opportunities and credit in addition to provisions for infrastructure and an Integrated Regional Development Plan. WAPDA is committed to the provision of these entitlements and necessary funding allocations have been made for them.

These combined Project efforts are intended to meet the resettlement objectives of rendering the affected people with a standard of living equal to if not better than that which they had before the Project.
ENTITLEMENT PACKAGES

In determining entitlements, the purpose has been to identify category of loss rather than category of person affected, as some Entitled Persons (EPs) will suffer more than one loss. The process of establishing particular entitlements has involved first establishing the legal rights that pertain and the legal provisions that would determine the entitlement. However, there are also pertinent instances (viz. occupancy, work) where the law does not provide specific entitlements yet entitlements are warranted. In such cases, an effort has been made to provide entitlements that are appropriate to the loss and offer favorable prospects for EPs improving their livelihoods.

The work opportunities provided under the Project will consist of priority in Project employment with the Contractors and WAPDA through the issuance of work permits. Two categories of work permits (green and blue) will be issued. Green permits will be issued to the most vulnerable PAPs. Holders of green work permits will be given priority over those holding blue work permits, and will be paid Rs. 500 per month for a period of up to one year or until they find work, whichever is earlier. Holders of blue work permits will have priority in obtaining work on the Project over non-permit holders having equivalent qualifications.

Women and minors entitled to a work permit will be permitted to nominate an alternate person to receive the work permit. Except for these categories, permit-holders will not be able to transfer or sell their permits.

With respect to access to such services as training and credit, priorities have been established based on the loss category and the value of other entitlements provided. Priority will be given to landless affectees.

Loss of Privately-Owned Agricultural Land. All EPs losing irrigated and barani land will be entitled to both cash and land compensation.

In order to minimise the period during which affectees will be deprived of agricultural income, they will be permitted to farm the land, even after WAPDA has taken possession, until the land is required for construction. Thus the period for which affectees will not have land for cultivation will be less than two years.

Cash compensation will be based on the market value of land plus an additional 15% as compensation for compulsory acquisition of the land. The compensation land will be on the spoil banks, which will be provided with tubewells for irrigation.

Losers of irrigated land will be entitled to purchase, at barani rates, the same amount of irrigated land on the spoil banks as they lost to the Project. The value of irrigated land is generally at least twice that of barani land. The cash savings
gained from a lower purchase price, supplemented by compensation from other losses (land improvements), will enable these affectees to support their households in the transition period between the loss of their land and their gaining spoil banks land, as well as provide resources to invest in their new land. If there are individual cases where the total cash saving (including compensation) is less than half the land compensation, then additional compensation will be provided.

Losers of barani land will be entitled to purchase half the amount of irrigated land on the spoil banks that they lost to the Project, at the same rate. Their savings will be used to support their households until irrigated land becomes available on the spoil banks and to provide resources to invest in their new farms.

Stamp duty on the purchase of land on the spoil banks will be paid by WAPDA, if it is not waived by the provincial Governments.

These landowners will also be entitled to blue work permits and Project credit and training opportunities.

Landowners who are losing their entire land to the Project and who have no other sources of income will be given priority work permits (green) as well as priority access to Project credit, training and employment opportunities.

Loss of Privately-Owned Uncultivable Land. All EPs losing uncultivable land will be entitled to cash compensation. They will also be entitled to blue work permits and Project credit and training opportunities.

If spare land is available on the spoil banks, losers of uncultivable land will be entitled to purchase irrigated land on the spoil banks equal to one-fourth the amount of land they lost to the Project.

Loss of Shamilat (Common) Land. All EPs losing shamilat (common) land will be entitled to cash compensation in proportion to their ownership share.

Loss of Crops, Orchards and Other Trees. All EPs losing crops, orchards and other trees will be entitled to cash compensation.

Loss of Agricultural Infrastructure. All EPs losing agricultural infrastructure (tubewells, wells, farm buildings, etc.) will be compensated at full replacement value.

Loss of Residential Houses. The owner of the plot on which the house is constructed will be provided a plot equal to his plot (or a minimum of 500 sq m).

The owner of the house structure will be provided cash compensation equal to the replacement cost of his house to enable him to build a replacement house on the allotted plot. If the
owner of the house structure is not the owner of the plot on which the house is constructed, the structure owner will be provided a plot of 500 sq m. Salvage rights of housing materials will be given to whoever is the owner of the house structure.

Occupants who occupy a structure but are not owners will receive a residential plot of 500 sq m and credit for construction of a house on the plot.

If there are additional inhabitants over 25 years of age in the house, each inhabitant will be provided an additional plot of 500 sq m, subject to a maximum of 1,000 sq m for the additional inhabitants per house being relocated.

**Fragmentation of Landholding.** An EP who is losing part of a contiguous landholding, and the residual fragment is smaller than 0.1 ha, will be entitled to have the residual fragment also acquired.

**Severance of Landholding.** An EP who is losing part of his landholding, and the residual landholding is adversely affected by the severance, will be compensated in accordance with the provisions of the Law.

**Change of Residence or Place of Business.** If as a result of land acquisition, a PAP is compelled to change his residence or place of business, he will be compensated for the reasonable expense incurred for such change.

**Loss of Tenancy Rights.** Any tenants with a legally-valid tenancy will be entitled to a part of the cash compensation payable for the land and to compensation for any land improvements they have made, in accordance with the provisions of the Law and the terms of the tenancy. Such tenants will be provided blue work permits and access to credit and training.

Informal tenants will be entitled to compensation for any land improvements they have made and will be provided green work permits and priority access to credit and training.

If the residual tenancy is less than 0.5 ha, tenants will be entitled to priority in the purchase of surplus land on the spoil banks up to one-half of the tenancy land acquired for the Project.

Losers of standing crops, orchards and other trees will receive cash compensation for these assets.

**Loss of Rental Rights (Ijaradari).** Ijaradars will be entitled to a part of the cash compensation payable for the land and to compensation for any land improvements they have made, in accordance with the provisions of the Law. The annual net profit from the land will be capitalised for the remaining part of the lease. They will be provided blue work permits and access to credit and training.
Ijaradars will have the same entitlement as tenants for the purchase of surplus land on the spoil banks.

Losers of standing crops, orchards and other trees will receive cash compensation for these assets.

Loss of Employment. Those who lose employment (resident agricultural labourers and family labourers) will be given green work permits and priority access to Project training and credit schemes. Seasonal labourers determined to be significantly impacted by the land acquisition will be eligible for blue work permits and given access to Project training and credit schemes.

SUPPORT DURING TRANSITION PERIOD

One of the objectives of the RAP is to provide support to the Entitled Persons during the transition period. In this context, the following measures are being adopted:

- Losers of cultivable land will be entitled to cash compensation and the purchase of irrigated land on the spoil banks. The cash savings gained from a lower purchase price for the land on the spoil banks, supplemented by compensation from other losses (land improvements), will enable these affectees to support their households in the transition period between the loss of their land and their gaining spoil banks land, as well as provide resources to invest in the development of their new land.

- In order to minimise the period during which affectees will be deprived of agricultural income, they will be permitted to farm the land, even after WAPDA has taken possession, until the land is required for construction. Thus the maximum period for which land will not be under cultivation will be less than two years.

- Work opportunities will be provided under the Project consisting of priority in employment with the Contractors and WAPDA through the issuance of work permits.

- Priority access will be available to PAPs to Project credit and training opportunities.

These measures will ensure that the standard of living of the affectees is not adversely affected during the transition period.

ORGANISATIONAL FRAMEWORK

Upgrading Institutional Capability in WAPDA. The Water and Power Development Authority (WAPDA) has expanded its Environmental Cell (WEC) and added social science expertise in order to deal with the resettlement aspects of the Project. For the purpose of the Project, a Project Resettlement Organisation (PRO) has been set
up under the Chief Engineer and Project Director (GBHP). This includes a Social Sciences Branch (SSB), staffed by WAPDA experts under a Senior Social Scientist. The PRO will be responsible for implementing the Resettlement Action Plan.

The knowledge and understanding of resettlement and the management skills of the PRO and other concerned staff will be enhanced through training workshops conducted at the beginning of implementation.

**Provincial/District Land Authorities.** The Provincial Governments (Punjab and NWFP) will appoint Land Acquisition Collectors from among its senior Revenue officials to valuate and acquire land for the Project under Pakistan's Land Acquisition Act provisions. Revenue staff will assist the LACs in updating the land record during the acquisition process and in preparing titles and deeds for the new owners of irrigated spoil banks land.

**Project Non-Governmental Organisation (PNGO).** WAPDA will provide funding for the formation of an autonomous Project NGO. The PNGO will be provided with a trust fund of Rs. 100 million, the profits of which will be used to underwrite its administrative overheads and fund operations. Additional funds will be provided for the Project compensatory activities. The PNGO will operate in four major areas:

- **Village Organisation.** It will use the techniques of grass-roots village organising to enable those directly affected by the Project to represent their own interests, and participate in resettlement and compensatory activities and Project benefits.

- **Project Field Teams.** Together with SSB staff, the PNGO will form teams to undertake resettlement activities, including the completion of Certificates of Compensation and work permits for each individual losing property or livelihood as a result of the Project, the confirmation of compensation for land, the transfer of resettlers to new housing, and the organisation of resettler farmers to take over land on the spoil banks.

- **Compensatory Activities.** It will organise key activities for women, for village landless groups and other direct affectees of the Project, notably training, credit and self-employment generation schemes.

- **Regional Development.** It will administer an Integrated Regional Development Plan (IRDP) to develop the Project area and focus on long-term job growth.

**Project Contact Committees.** The PNGO will assist in the formation of Project Contact Committees (PCC) in each affected village. These committees will be composed of affectees, will voice affectee interests, and will promote affectee involvement in all relevant Project activities and benefits.
Monitoring Consultants. To assist the Environmental Cell in overall resettlement and environmental monitoring, Monitoring Consultants will be engaged by WAPDA.

External Panel of Experts. The progress of the implementation and monitoring of the resettlement plan and associated mitigation measures will be reviewed from time to time by an External Panel of Experts, consisting of at least two members, one a resettlement expert and the other an environmental expert.

COMMUNITY PARTICIPATION

A key strategy adopted during the Project studies has been to actively involve Project area communities in planning Project activities, especially ones having a direct community impact. The mechanism used was village scoping sessions where Project staff met villagers to discuss plans and elicit their views and ideas. These were then taken into account in subsequent planning decisions and exercises. A particular effort was made to meet Project area women and conduct similar exercises. In addition, local NGOs were contacted for their views.

During implementation, scoping sessions and information campaigns will be continued. These sessions will include details about specific entitlements; schedule of resettlement-related activities; working of Land Valuation Committee; license for continuing farming activities until land is required for construction; procedure for demarcation and allotment of land on the spoil banks; establishment of Tubewell User's Association, and grievance and appeal mechanism.

WAPDA will also set up a Public Information Centre (PIC) to handle various inquiries as well as disseminate project information to the public.

LEGAL FRAMEWORK

Land Acquisition. The Land Acquisition Act is the primary law governing land acquisition in Pakistan and is the principal general statute laying down the framework for the exercise of the right of eminent domain of the State. The Act lays down a step by step process that follows the Act's various Sections for legally acquiring land. For the Project, the process began with WAPDA (the Requiring Body) making an application for the land to the Provincial Governments (the Acquiring Body).

The Government through its land and revenue authorities then issues a preliminary notification to this effect (Section 4). Under Section 5, a formal notification is issued that the particular land is needed for a public purpose. Any person interested in any land which has been notified under Section 5 may, within thirty days after the issue of the notification, object to the acquisition of the land under Section 5-A.
The Government makes a more formal declaration of intent to acquire land (Section 6) and after this, the Commissioner shall "direct the Collector to take order for the acquisition of the land" under Section 7.

The Collector has then (Section 8) to cause the land to be marked out, measured and planned (if this was not done after Section 4). Under Section 9, the Collector gives notice to all interested people that the Government intends to take possession of the land and if they have any claims for compensation that they be made to him at an appointed time.

Section 10 delegates power to the Collector to record statements of persons possessing any interest in the land or any part thereof as co-proprietor, sub-proprietor, mortgagee, tenant or otherwise.

Section 11 enables the Collector to make enquiry into "measurements, value and claim and issue the final award". Included in the award is the land's true area, his view of what compensation is warranted, and the apportionment of that compensation to all interested people.

When the Collector has made an award under Section 11, he will then take possession under Section 16 and the land shall thereupon vest absolutely in the Government, free from all encumbrances. Section 18 pertains to persons still dissatisfied with the award who may request the Collector to refer the case to the court for determination and decision. This does not affect the taking possession of the land.

Under the Act, the person whose land is being acquired cannot be compelled against his wishes to accept compensation in any form other than cash. However, Section 31 of the Act provides that the Collector can, instead of awarding cash compensation in respect of any land, make any arrangement with a person having an interest in such land, including the grant of other lands in exchange. Thus, a formal consensual agreement will be entered into with those PAPs losing land who opt to pay part of their cash compensation for land on the spoil banks.

**VALUATION OF LOST ASSETS**

Valuation of Land. The Project proposes to achieve fair and timely compensation through the establishment of Land Valuation Committees for each village which will be charged with determining fair prices for land in that village and recommending them to the Land Acquisition Collector for adoption in the award (Section 11). This Committee will be headed by the local Assistant Commissioner and will include a representative each from WAPDA and the PNGO, and two representatives of the affectees of the village. It will formulate a price based on pertinent criteria such as the one year averages of land sales in the village for the year period immediately prior to the date of
issuance of Section 6, the location of the land, its type and productivity.

Valuation of Buildings. Replacement cost for houses shall be evaluated on specified rates, according to the category of the house based on its type of construction. All other structures will be valued at full replacement cost. There will be no deductions for depreciation or for salvage.

Valuation of Crops, Orchards and Other Trees. For crops, compensation will be based on the market value of the crop. For orchards, the valuation will be based on the net annual income from the orchard, capitalised for 20 years. For other trees, the valuation will be based on the market value, taking into account the species and the size of the tree. Wood will be salvaged by the owner.

TRANSPARENCY OF COMPENSATION PROCESS

A number of measures are being adopted to ensure transparency of the compensation process. These include involvement of the PNGO in all aspects related to valuation and compensation; representation of affectees on the land valuation committees; issuance of Certificates of Compensation to each affectee and the public availability of these certificates; and payment of compensation directly into bank accounts of the affectees. These measures will greatly help in minimising the possibility of affectees not receiving full compensation.

WAPDA will provide each Entitled Person with a Certificate of Compensation. This Certificate will record the precise loss of property (type, physical dimensions, replacement value) or livelihood, state the compensation due for this loss to each property holder or household, and note eligibility for other compensatory programmes. Copies of each Certificate will be retained by the PRO, local Project Contact Committees, and Project Field Teams. The latter will certify that the full cash compensation has been paid for those losing property, that all eligible for work permits have received them, and that a member of each village landless household losing livelihood has been given an opportunity to register in vocational training and/or credit and self-employment schemes.

DEVELOPMENT OF SPOIL BANKS

Proper procedures will be used for dumping, spreading and grading the spoil. A schedule has been developed to dress the spoil banks with topsoil efficiently and with minimum soil degradation. In this schedule, the typical spoil bank is constructed by dumping and compacting excavated material from the adjacent reach of the power channel. Then the topsoil from the next reach of the power channel and/or from the next spoil bank will be spread over the already constructed bank. This will proceed as a continuous operation in parallel with channel construction, thus minimising damage to the topsoil by prolonged
storage. The excavation will be carried out progressively over the construction period. As each reach is excavated, the spoil banks will be created along that reach.

The dimensions of the spoil banks will vary according to the topography and present land use of the area concerned. The width at right angles to the power channel will vary up to about 800 m, while the height of the spoil banks will be between 3.5 and 10 m, depending on the level of the contiguous terrain. In those areas where the spoil banks are above the level of the contiguous land, as they will be on the right bank, access ramps will be provided to enable tractors and animals to reach the top of the spoil banks.

The Project will provide irrigation water for the land on the spoil banks. About 150 tubewells of a capacity of 7 l/s (0.25 cusecs) will be provided at appropriate locations along the spoil banks. These have been calculated to provide a water allowance of 28 l/s for 80 to 100 ha with a 50% utilisation factor for the tubewells.

WAPDA will implement a pilot programme for development of spoil banks for agriculture. Pilot farms will be established for this purpose on the 25 m wide strip retained by WAPDA on the spoil banks adjacent to the power channel. The results from this programme will be provided to the farmers resettled on the spoil banks. In addition, agricultural extension services will be provided to the farmers. The productivities achieved on the spoil banks will be periodically evaluated.

RESettlement on Spoil Banks

All landowners losing cultivable land in the Project will be entitled to purchase irrigated land on the spoil banks on highly favorable terms. Landowners who opt to purchase irrigated land on the spoil banks will retain about one-half of their cash compensation, which they can use to support their families during the period when no land is available to them for farming and to develop their plots on the spoil banks. The amount required for the purchase of land on the spoil banks will be held in a profit-bearing joint account for this purpose. The profit will belong to the landowner.

The allocation of the spoil banks land will be entrusted to a committee composed of the farmers resettling around a tubewell, assisted by the Project field teams (PNGO and SSB). The allotment plan will be approved and adopted by a committee comprised of the Chief Engineer & Project Director (GBHP) or his nominee, representatives of the PNGO, the WAPDA Environmental Cell, the Land Acquisition Collector and a representative of the District Collector (preferably a Tehsildar). If a farmer group fails to agree on the allotment plan, the above committee will finalise one for them. The representative of the District Collector will be responsible for seeing that the land allotment is recorded in the land records.
Once farmers have been settled around a tubewell site, the PNGO and PRO/SSB staff will work with the farmers in organising them into Tubewell User's Associations. This process will go on as the tubewells are installed enabling the farmers to participate in tubewell-related decisions from the earliest stages.

RESSETLEMENT HOUSING

Three resettlement villages will be established, one adjacent to the Lawrencepur-Tarbela road about 1 km from Ghazi, another near Banda Feroze, and the third adjacent to existing houses of Barotha village on the left side of the tailrace alignment. These locations have been identified by the concerned PAPs and will accommodate replacement housing for 68 of the houses to be relocated. For the remaining 42 houses, which are widely scattered, replacement housing will be constructed in the vicinity of the existing house.

Planning for the sites of the resettlement villages includes residential plots, as well as space for a park, mosque, school, medical centre and roadways. The village will be grouped around a park in the centre, with the main community buildings around the park. In each village, a road network, a water supply and sewage system, and electricity will be provided under the Project. WAPDA will also construct a primary school, a mosque and a Basic Health Unit.

Plots will be allotted to the Entitled Persons in these villages and they will construct their houses on these plots. A minimum period of nine months will be provided for construction. All replacement houses will be constructed by the houseowners themselves. Extensive experience shows that rural people are reluctant to occupy the kind of standardised housing usually built for them by Projects. Indeed, local people in the Project area have said in the scoping sessions that they would prefer to build their own houses. This will be done according to a schedule and scheme of incentives/disincentives which will ensure that the new house will be built and occupied before the previous site is needed for Project construction.

After the replacement housing is ready, the concerned family will be provided transport to move into the new housing and the evacuated house will be demolished. The PNGO will assist the resettlers in organising the move and in forming community organisations in the resettlement village.

EMPLOYMENT, TRAINING AND CREDIT SCHEMES

The Project will undertake various efforts through employment, training and credit schemes to restore production systems, support family livelihoods otherwise lost, and provide general social and economic uplift to the Project region.
All individuals losing property in the Project and all households losing their livelihood as a result of the Project will be provided with a work permit. The Project will provide guidelines to construction contractors for hiring local people in all skill categories where local people have equal skills to outsiders. Local people with work permits will be hired first. This means that all the unskilled, much of the semi-skilled, and part of the skilled positions in construction work forces will go to local hires.

The Project will provide funds for vocational training, grassroots credit programmes, and self-generation employment schemes. The direct affectees of the Project will have first access to these schemes. The Project NGO will be responsible for their preparation.

Village landless groups losing their household livelihoods due to land acquisition will receive special consideration both in work opportunities, as holders of high priority green work permits, and in the programmes of vocational training, credit and self-employment generation.

INTEGRATED REGIONAL DEVELOPMENT PLAN

WAPDA is incorporating an Integrated Regional Development Plan (IRDP) in the Project. For this reason, WAPDA has arranged to hire an internationally-respected NGO (the National Rural Support Programme) in October 1994 to provide a plan for the regional integration and social uplift of the Project area. This will include social uplift (education, health); agricultural development (credit, extension services); and business/industrial development (small and medium scale). The plan will cover electrification of villages and construction of village link roads. The plan will include specific programmes for women and other vulnerable groups of the PAPs. The plan will also stress long-term job development in the region. WAPDA will provide Rs. 176 million towards the implementation of this Plan. Of this, Rs. 30 million will be specifically utilised for credit and income generation schemes.

ENVIRONMENTAL PROTECTION AND MANAGEMENT

Major environmental issues related to the Ghazi-Barotha Hydropower Project are treated in the Environmental Assessment Summary and other related documents. This Plan only focuses on secondary environmental issues related to resettlement.

Main secondary environmental problems are those related to sanitary conditions at the resettlement sites. A water supply and sewerage unit will be provided in each resettlement village as well as a Basic Health Unit. During construction of the site, care will be taken to allow for adequate seepage and drainage and to protect water sources (wells, tubewells) from pollution. Specific resettlement issues that are also related to the environment include the removal and relocation of graves and a
mosque, relocation and replacement of infrastructure facilities, safety measures along the channel, public movements across the channel, and cultural properties.

PROJECT GRIEVANCE PROCEDURES

Grievances that arise as a result of Project activities will be addressed first by consultations between the affectee, the PNGO staff and/or the SSB staff. If the matter is still unresolved, it will be referred to the Land Valuation Committee for resolution. As a last resort, affectees will redress grievances through the courts.

PROJECT RISK ASSESSMENT

During the course of carrying out the RAP there may be occasions when risks to effective implementation will be considerable. There are several areas of particular concern and risk for the Entitled Persons. These include equitable and timely valuation, acquisition and compensation of their lost assets; difficulties in demarcating and allocating the plots on the spoil banks; delays in construction that postpone their resettlement; staffing of key positions; the potential for social and political unrest developing from local issues; and the effectiveness of the PNGO.

These and others have already received consideration during the planning phase and measures identified to address them. The Project's monitoring arrangements will identify other risks that may arise during implementation. The Project Resettlement Organisation (WAPDA) and the PNGO will take steps to minimise these risks.

IMPLEMENTATION SCHEDULE, MONITORING AND EVALUATION

The series of key implementation events that relate to resettlement will take place at the same time as construction of the Project's main components is underway, and the two schedules are interlinked.

A detailed schedule has been developed for resettlement-related activities, and benchmark dates established. The key implementation events are as follows:

- Staffing and training of the PRO 9/94 to 11/94
- Formation of PNGO 11/94
- Preparation of IRDP 10/94 to 3/95
- Land Acquisition Process 12/93 to 6/95
- Compensation Awards 3/95 to 6/95
- WAPDA takes possession of land 4/95 to 6/95

S.18
- Development of Barotha Resettlement Village 9/94 to 7/95
- Development of Resettlement Villages at Ghazi and Banda Feroze 9/94 to 12/95
- Development of Spoil Banks and Resettlement 6/96 to 12/99

Monitoring and Evaluation will be the responsibility of four agencies: the WAPDA Environmental Cell, the Monitoring Consultants, the PNGO and the External Environmental Panel. The WAPDA Cell will also be assisted by the PRO's SSB and the PNGO in carrying out its monitoring and evaluation responsibilities.

A formal mid-term evaluation of the Project will be carried out in mid-1997 to assess the implementation of the resettlement activities and to ascertain if the PAPs have been able to successfully restore standards of living.

**RESETTLEMENT COSTS**

The costs of resettlement-related actions envisaged under the Resettlement Action Plan have been assessed at US $ 54.64 M (Rs. 1675.14 M plus US $ 0.6 M). The estimate of these costs is based on the available data and a contingency provision has been added to take into account variations from this data. WAPDA is committed to defray the actual costs incurred in carrying out the envisaged resettlement-related actions and to provide the funds required in a timely manner. Adequate provisions exist in the approved Project cost estimate.

The major resettlement costs for the Project will be the cost of land acquisition and the replacement costs for residential houses and privately-owned infrastructure. These total US $ 35.45 M (Rs. 1099.08 M).

Other costs cover such items as compensation for farm produce, relocation of community infrastructure, resettlement villages, developing the spoil banks, trust fund for the PNGO and costs related to the Integrated Regional Development Plan. Further costs include work permits, studies, monitoring, administration and contingencies.

The contingency provision is 5% of the sum of all the resettlement-related costs. This is in addition to the contingency provision of 264 ha of land acquisition to cover the acquisition of residual fragments of land from PAPs and other contingencies.
1.1 NEED FOR POWER

The pace of development in Pakistan's agricultural and industrial sectors during the last three decades has been considerable, resulting in a greatly increased demand for power. At the same time, population growth has also increased power demand in the domestic and commercial sectors. The Government of Pakistan has endeavoured to meet this ever-increasing demand by installing additional hydro and thermal power plants. In spite of priority-level efforts, however, the country's power generating capacity has been generally lower than the peak demand, particularly during January and the early summer months. As a result, load shedding has become a common factor in the economic and social life of the country.

In 1993-94 the peak demand for electricity was about 9,000 MW. By the year 2000, estimated peak demand is expected to rise to 15,000 MW, an increase of 6,000 MW.

The measures being adopted to conserve energy include demand side management, energy loss reduction and operational improvements. An aggressive demand side management policy comprising of various demand regulation, load management and energy conservation programmes has recently been formulated. Efforts are continuing to reduce system losses and revised targets for operational efficiency of the Utilities have been set. These measures may reduce the additional demand by up to 1,000 MW. There is thus an imperative need for enhanced generation capacity.

Pakistan currently uses a variety of energy sources: fuelwood, fossil fuels, and water power (for generation of electricity). There is potential for solar power and biogas but technology and resource constraints preclude their current development. Under all alternate power generation scenarios, hydropower has been shown to be the most attractive option for meeting future demand. Generation expansion studies have shown that, with the Ghazi-Barotha Project included in the list of candidate plants, it was promptly selected as part of the least-cost expansion programme for the national power system. This result remained valid for the entire range of sensitivity analyses carried out.

1.2 PROJECT DESCRIPTION

1.2.1 General

The Ghazi-Barotha (formerly Ghazi-Gariala) Hydropower Project (the Project) is located in the northern part of Pakistan (Drawing 1.1). It is designed to utilise the fall in the Indus river between the tailrace of Tarbela dam and the confluence of
the Indus and Haro rivers to produce electricity in an economic and environmentally acceptable manner. The Project will have an installed generating capacity of 1,450 MW.

WAPDA carried out a pre-feasibility study and published a report in 1987 which established the viability of the hydropower scheme. A more detailed study was needed to demonstrate the technical, economical and environmental feasibility of the scheme to the Government of Pakistan and potential financing agencies or donors.

On the request of Government of Pakistan, the United Nations Development Programme agreed to finance the proposed study. The World Bank was appointed as the Executing Agency with WAPDA as the Cooperating Agency. Pakistan Hydro Consultants, a joint venture of five firms, NESPAK and ACE of Pakistan, Binnie & Partners and Ewbank Preece of UK, and Harza of USA, were appointed in December 1989 to carry out a two-stage study of the feasibility of the Project and its tender design. The feasibility study was completed in May 1991 and the tender design study in August 1992.

The Project is a major run-of-the river power project, designed to utilise for power generation the head available in the Indus river between Tarbela dam and its confluence with the Haro river. In this reach, the Indus drops by about 76 m in a distance of 63 km (Drawing 1.2).

The Project will have three main components: a barrage, a power channel and a power complex. The relatively flat slope of the power channel will permit most of the river drop to be utilised for power generation. The salient features of the Project are given in Table 1.1.

1.2.2 The Barrage

The barrage will be located about 7 km downstream of Tarbela dam, just upstream of the town of Ghazi. It will comprise (Drawing 1.3):

- a right guide bank with a fuse plug to assist in passing extreme floods;
- a concrete gated section containing twenty radial gates;
- a dividing island to direct flows to desired areas;
- an undersluice section with eight control gates, primarily to clear sediments from the area of the intake;
- a head regulator to control flows into the power channel;
- a left guide bank, and
- a downstream separation dyke and a cunette, to direct river flows away from the left bank of the river in front of Ghazi and Khalo.

The barrage will also include a road crossing of the Indus river.

The barrage will create a pond that will extend upstream to the tailwaters of Tarbela dam. Its normal surface elevation will be 340.0 m at the barrage, where locally it will reach a maximum depth of 14 m.

Most of the materials required for the construction of the barrage will be obtained from necessary excavations in the bed of the river. Exceptions will be the silt for core material, rock for riprap slope protection and fine aggregate for concrete, all of which will be obtained locally from borrow areas. All spoil arising from excavations for the barrage will be used as random fill in the dividing island or to fill the area behind the left guide bank.

The pond will have a surface area of about 1,140 ha. The land required for the barrage pond and structures is mostly in the river bed and non-proprietary.

Construction of the barrage will require 51 months, including the mobilisation period. A two-stage diversion of the river is planned in order to avoid high cofferdams.

1.2.3 The Power Channel

The power channel will convey water from the barrage pond to the power complex. It will be a concrete-lined channel with a capacity of 1,600 cumec, trapezoidal in cross section, 94.4 m wide at the water surface and 9 m deep (Drawing 1.4). The power channel will have a bed slope of 1:9,600. The water velocity in the channel will be 2.33 m/s.

Along its route, the power channel will be provided with a railway bridge, 34 road bridges and 12 pedestrian bridges, as well as 26 superpassages and a culvert for carrying flows in seasonal streams (nullahs). Each superpassage has been designed to carry the 500-year return period flood across the channel. Excess flows from larger floods will overflow into the channel, reducing the severity of these rare floods downstream of the channel. There will also be 18 inlet structures, which will allow the flows of small nullahs to enter the channel.

A bridge near Rumian will carry the main railway line from Attock city to Peshawar over the channel.

The excavation of the channel will generate about 70 M cu m of surplus material, most of which will be spoiled on lands and terraces adjacent to the power channel. The spoil banks will be
graded, covered with topsoil (stripped from the channel and from adjacent spoil areas), provided with tubewell irrigation and sold back to the affected farmers.

The Project will require about 1,000 ha of land permanently for the power channel. In addition, about 1,640 ha will be used for the spoil banks to be sold back to the affectees.

The construction of the power channel is expected to require 51 months, including the mobilisation period.

1.2.4 The Power Complex

The power complex will be located near the village of Barotha, on the left bank of the Indus river, just upstream of the confluence with the Haro river. It will consist of a forebay, two headponds, a spillway, an intake structure, five penstocks, a powerhouse, a tailrace channel and a switchyard (Drawing 1.5).

The forebay, with a normal pond level of El. 334.0 m, will receive water from the power channel and deliver it to the power intake structure. The forebay will be equipped with a spillway capable of handling the full 1,600 cumecs discharge of the power channel in the event of a sudden power plant shutdown.

The powerhouse, located in a deep excavation, will be a massive reinforced concrete structure housing five vertical-axis Francis turbines driving 290 MW generators. Water discharged by the powerhouse will be returned to the Indus through a tailrace channel approximately 2 km long.

The two headponds will allow the turbine-generators to be operated at full capacity at times of peak demand. This is a valuable additional feature of the Project. The locations of the headponds have been selected on the basis of topography and geology. Apart from a few isolated dwellings, no village settlements will be affected by the headponds.

The fill materials required for the power complex will all be available from required excavations. Concrete aggregate and rock for riprap protection will be obtained from borrow areas.

About 850 ha of land will be required for the power complex and its headponds. Another 100 ha will be required for the power complex colony and a new access road from Haji Shah, to allow heavy construction traffic to bypass Attock City.

The construction of the power complex is expected to take about 56 months up to the commissioning of the first unit. Commissioning of the remaining 4 units will take a further eight months.
1.3 EFFORTS TO MINIMISE RESETTLEMENT AND ITS IMPACT

Throughout the studies for the Ghazi-Barotha Project, emphasis has been placed on early identification of environmental and resettlement impacts. Environmental and resettlement considerations have been included in the process of selection of alternatives during the siting of structures, design of components and development of operational concepts.

The impact of this approach is exemplified by the alignment selected for the power channel. During the pre-feasibility stage, the initial alignment considered for the Project was a least cost option that achieved a balance between cut and fill resulting in minimal spoil. Though this option offered a significant economic advantage, the resulting alignment would have passed through several long-established villages along the left bank of the river. This was considered unacceptable from resettlement considerations.

It is noteworthy that the alignment option that was eventually selected directly addresses major resettlement concerns in two ways. One, minimal resettlement will take place because the adopted alignment avoids all villages by shifting the power channel to higher ground away from the river. This option significantly increases the requirement for excavation and therefore the overall cost of the Project, but decreases its negative social (and environmental) impact. Two, the Project will resettle the affectees in the Project area near their homes on new spoil banks land provided by the Project along the power channel. This is an innovative approach which avoids the option of resettling people in host communities with all its attendant difficulties.

Another major planning activity has been early and frequent interactions with the local people. This has kept the planning team attuned to public concerns and desires, and facilitated the participation of the local population in the planning process. As a consequence of this approach, it has been possible to identify and avoid, or at least mitigate, the potentially serious social effects.

1.4 PURPOSE OF RESETTLEMENT ACTION PLAN

The Resettlement Action Plan (RAP) is designed to be an action-oriented document that sets out succinctly and clearly the following components:

- the resettlement policy for the Project;
- the resettlement-related baseline data collected for the Project;

1.5
- the entitlements established for the Project, intended to provide prompt and equitable compensation to affected people;
- the milestone dates by when resettlement-related actions are to have taken place;
- an emphasis on monitoring to ensure that the plan's provisions are effectively implemented and if necessary adjustments are undertaken when and where they are required, and
- an assessment of the costs of the resettlement-related actions envisaged.

All material related to Environmental issues, including cost information, is provided in the Environmental Assessment Summary (Ref. 1.1).

REFERENCES

1.1 Pakistan Hydro Consultants; Ghazi-Barotha Hydropower Project, Environmental Assessment Summary, July 1992.
CHAPTER 2

OBJECTIVES, ENTITLEMENTS AND IMPLEMENTATION STRATEGY
OBJECTIVES, ENTITLEMENTS AND IMPLEMENTATION STRATEGY

2.1 OBJECTIVES

The Ghazi-Barotha Hydropower Project has been designed under policy guidelines and procedures developed by the Government of Pakistan and World Bank for Projects involving involuntary resettlement. These include the World Bank's Operational Directive 4.30. The design of the Project and the development of the Project Resettlement Action Plan have been guided by the following general policy objectives:

- Involuntary resettlement is an integral part of Project design, to be dealt with from the earliest stages of Project preparation.

- Involuntary resettlement should be avoided or minimised wherever feasible, exploring all viable alternative Project designs.

- Where unavoidable, resettlement plans should be conceived, developed and executed as development programmes, with resettlers provided sufficient investment resources and opportunities to share in Project benefits.

- Persons to be displaced should have their former living standards and income earning capacity improved, or at least restored, and should be provided adequate support during the transition period.

- Community participation should be encouraged in the planning and implementation of resettlement.

- Land, housing, infrastructure and other compensation should be provided to the adversely-affected population.

- The compensation process should be fully transparent.

- Given the growing requirements and complexity of resettlement in development projects, concerned government agencies and departments should upgrade their institutional capacity to design and implement Resettlement Action Plans.

This Chapter delineates the operational framework to meet the above objectives, and discusses the potential effects of the resettlement that will have to take place under the Project, including the impact on women. It further sets out the entitlement policy adopted for the Project, developed in the light of the above objectives, and identifies the specific...
entitlement packages designed for those affected by the Project. It also presents the Project's strategy for implementing entitlements and other resettlement-related actions. It discusses Project arrangements for monitoring and evaluation of resettlement provisions, modalities for redressing grievances and an assessment of risks for the Project in circumstances where these exist.

Additional information on the policy and legal framework is provided in Chapter 6, which also covers the measures being adopted to ensure transparency of the compensation process.

2.2 OPERATIONAL FRAMEWORK

This plan is organised along the lines outlined in OD 4.30. As well as insuring that all necessary resettlement-related issues are covered, this organisation lends itself to an action-oriented plan that sets out clearly and succinctly what the Project will do in resettlement to improve, or at least restore, Project affected persons' (PAPs') economic livelihoods.

This is the underlying goal of the RAP, that the PAPs will benefit from the Project. Village scoping sessions and surveys indicate that there is keen interest in the Project among the PAPs including the prospect of gaining irrigated land on the spoil banks. This is particularly true for current holders of barani (rain-fed) land, the largest land class in the Project area, who envisage greater productivity and income for them under the Project. Beyond the assets that the Project plans to restore for people adversely affected by loss of land and property are the opportunities for employment, training and credit which will serve to enhance their overall economic welfare.

During Project preparation, much information has been collected in the field through studies and surveys to determine the best modalities for handling such complex issues as displacing people from their homes and farms and restoring them on new land. On the basis of what has been learnt, a variety of entitlements have been planned for the PAPs and resettlement mechanisms designed for carrying them out. However, to mitigate where these means may fall short, corrective measures have been provided for, such as the grievance process and monitoring and evaluation arrangements. In addition, the integrated regional development plan (IRDP) to be carried out during the Project will provide considerably greater scope for PAPs to further improve their social and economic wellbeing.

The surveys and scoping sessions indicate that the PAPs expect to benefit from the Project's provisions but their main concern is that the entitlements they are due will be awarded on an equitable, fair and timely basis. The Project fully intends to address these concerns by comprehensive information campaigns in the Project area at appropriate times to appraise the PAPs of their entitlements and the schedule for their award. These
campaigns will involve participation by the PAPs themselves in order to insure that the entire entitlement process is successfully carried out. Land Valuation Committees will be formed with affectee representation which will assist in determining realistic market prices for land. Appropriate procedures for appeal will be available, where necessary.

PAP groups have been identified and entitlement packages have been designed to address their specific circumstances. Categories eligible for entitlement also include such landless groups as agricultural labourers and tenant farmers. Efforts have been made to determine which groups will be most vulnerable and entitlement packages designed to benefit them.

2.3 RESETTLEMENT-RELATED IMPACTS

2.3.1 Loss of Land

A total of 4,770 ha of land will be required for the construction of the Project (Table 2.1). Of this total, 3,130 ha will be permanently acquired for the physical components of the Project (1,180 ha for the barrage, barrage pond and embankments; 1,000 ha for the power channel; and 950 ha for the power complex including the headponds), while 1,640 ha will be temporarily acquired for building spoil banks along the power channel. The land on the spoil banks will be provided with tubewells for irrigation and returned to those losing cultivable land to the Project.

The land required for the barrage, barrage pond and embankments (1,180 ha) is in the river bed and its fringes, and already belongs to the Government. The fact that the area to be flooded behind the barrage is uninhabited and in the public domain obviates for this Project the resettlement effects usually associated with large hydropower projects.

About 50 ha of state-owned land will be required for the construction of the power channel through the Aeronautical Complex and Air Force Base at Kamra. The basis for compensation for this land and connected facilities has already been agreed with the Kamra authorities. A further 83 ha of state-owned land, consisting of several fragments, lies in the Project right-of-way and will be available for the Project.

Thus the net loss of privately-owned land to the Project will be 1,817 ha, whereas 1,640 ha of land will be returned for cultivation after being provided with tubewell irrigation.

As shown on Table 2.2, 81.9% of the privately-owned land to be taken by the Project is barani land (rain-fed). The next largest category is uncultivable (14.7%), followed by irrigated land (3.4%).

A recent study into the productivity potential of the spoil banks has shown that the productivity of the irrigated spoil banks
should be up to four times that of barani lands in the area (Ref. 2.1). Thus the productivity of the 1,640 ha of spoil banks should be nearly double that of the 3,457 ha of land being acquired. Even if a productivity ratio of three is adopted, there would be a 50% resultant increase in productivity as a result of the Project.

The estimate of 3,457 ha of privately-owned land to be acquired for the Project includes a provision of about 264 ha for acquisition of fragmented land and other contingencies.

The remaining 3,193 ha of privately-owned land to be acquired for the Project on the basis of demarcation of the right-of-way is spread over 50 villages. The total landholding of these 50 villages is 42,129 ha. The land being acquired thus represents less than 8% of the total landholding of the affected villages. Two villages will be losing a considerable part of their land (50% for Barotha and 48% for Dher, both in the power complex area) while the loss varies between 0.2% and 20% for the remaining villages (Table 2.3).

Of this land, 90 ha pertain to the shamilat (common) land and is jointly owned by 1,752 owners. This is land jointly owned by the entire mouza (village) and is not a means of livelihood for any of its owners.

The remaining 3,103 ha of privately-owned land to be acquired consists of 3,600 land units (each being recorded as a khasra or land unit in the land revenue records), with a total of 26,378 owners. Of these, there are 6,503 owners who have ownership rights in more than one unit. There are thus 19,875 individuals who own the land to be acquired (Table 2.4).

A further 1,549 owners will lose only uncultivable land, which is not a means of livelihood for them.

Excluding those who lose only uncultivable land, the average cultivable landholding of the remaining 18,326 owners is only about 0.15 ha.

The large number of owners is due to the multiplicity of ownership resulting from inheritance over a number of generations. The average number of owners per land unit is 6.4. However, 3,055 of the units (84.9%) are farmed as a single operational unit (Table 2.5).

The size of landholding being lost by the majority of these owners is so small that the resulting loss of income will not significantly affect their total income. The vast majority of these owners (16,463) have landholdings in addition to the land being acquired, with the average size of this additional landholding being 2.7 ha (Table 2.6).
The income survey indicated that (Tables 2.7 and 2.8):

- Whereas 37.7% of the respondents derived an income of less than Rs. 5,000 per annum from the land being acquired, 97.3% of the respondents had an additional income exceeding Rs. 5,000 per annum from other sources. In fact, 73.0% of the respondents had an additional income exceeding Rs. 25,000 per annum from other sources.

- Considering those affectees losing all their land to the Project, 95.1% had an additional income exceeding Rs. 5,000 per annum from other sources and 59.3% had an additional income exceeding Rs. 25,000 per annum from other sources. Those whose land holdings are less than 0.05 ha and all the land is being acquired also had significant additional income, with 87.2% having an additional income exceeding Rs. 5,000 per annum from other sources and 52.3% having an additional income exceeding Rs. 25,000 per annum from other sources.

This suggests quite clearly that most affectees are not dependent on Project land as the major source of their incomes, with the income from the remaining land and other sources being significantly greater than the income from the land to be acquired.

The number of owners who will be losing all of their landholdings and who do not have significant other sources of income is very small. The number of such affectees is estimated to be less than 100 (Table 2.8).

Nevertheless, a cash-cum-land compensation package has been developed which will ensure the livelihood of the PAPs during the transition period up to the time the spoil banks land is available to them for irrigated farming and thereafter.

2.3.2 Loss of Farm Produce

Crops, orchards and other trees on land being acquired will also be lost. Where permitted by the construction schedule, farmers will be allowed to harvest crops. Where this is not possible, cash compensation will be paid. Cash compensation will also be paid for loss of orchards and other trees.

2.3.3 Loss of Privately-Owned Infrastructure

Relatively little private infrastructure will be disrupted by the Project (Table 2.9). This infrastructure will be replaced or compensated at replacement value.
2.3.4 Loss of Residential Houses

The Project will require the demolition and relocation of 110 residential structures between Ghazi and the tailrace outfall at Baratha. This does not include non-residential farm structures, which are covered by Section 2.3.3.

A total of 179 families (899 inhabitants) are involved in this resettlement, a figure which shows that many rural people still live within the joint family system. Most of the houses are joint family compounds scattered out in the fields, where they happen to come within the power channel or tailrace alignments, or one of the headponds at the power complex.

Clusters of houses occur at only two places: at Banda Feroze and a group of residences near Baratha. Many of these families will also lose farm land to the Project.

Three resettlement villages are being established to house the majority of those losing residential houses. The remainder are widely scattered and will be resettled near their existing villages.

The compensation package for those losing residential houses provides compensation for the land as well as replacement housing. The interests of the owner of the land, the owner of the house structure and the occupant of the structure are safeguarded by the compensation package.

2.3.5 Loss of Public Infrastructure

The disruption of public infrastructure and social services is not insignificant. Nonetheless, it is entirely manageable and will be the responsibility of WAPDA and other public authorities. The major disruptions will be caused by the interception of the Grand Trunk Road and the main railway line by the power channel. In each case, a temporary diversion will be provided while a bridge is built. Bridges will also be provided for district and village link roads. Several of the bridges are being provided at locations where only footpaths presently exist.

Two overhead water tanks recently constructed by the Department of Public Health Engineering at Ghazi and Khalo and now in the ROW will be replaced prior to Project construction. This will also be the case for those facilities of the Veterinary hospital at Kamra affected by the ROW. In addition, a vocational institute of the NWFP Government and a nursery, water supply system and other facilities belonging to WAPDA in the Tarbela Colony will be replaced as they are within the barrage pond area.
2.3.6 Loss of Income for Rural Landless Groups

The old class of non-occupancy tenants and field labourers has virtually disappeared from the Project area. Most have migrated to the towns and cities. There are thus only 1,230 tenant farmers working on the land to be acquired.

A survey of the affected villages has shown that 34 villages employ no permanent labour on the land to be acquired, while only 69 labourers are employed on the land to be acquired in the remaining 16 villages. In addition, an estimated 161 family labourers work on the land.

Seasonal labour is employed particularly at sowing and harvest time. On average, seasonal labourer is estimated to be employed for about two months of a year. Up to 70% of the seasonal labour in a given year will not return the next year. Furthermore, the seasonal labourers will still have access to employment on the remaining 92% land of the villages in the Project area. Thus the impact on the seasonal labour is not expected to be significant. However, the PNGO will ascertain if any seasonal labourers are significantly affected by the land acquisition for the Project and such labourers will have specific entitlements.

Most of these tenants and labourers (permanent as well as seasonal) are expected to be re-engaged for the labour-intensive irrigated agriculture to be carried out on the spoil banks. Entitlements have been devised for each of these categories of landless affectees. In addition, the PNGO will have a specific focus on landless affectees and the IRDP will have a specific component for such affectees.

Unlike rural labour, a few of the old village artisan households are still present, about 3 households per village. Nonetheless, they too are a disappearing group, as harvest-time grain payments are converted into cash-for-service payments. Most of the artisan households have moved to bazaars nearby where they own and operate small-scale industries. Many artisan households have transformed their traditional skills (carpentry, ironmongery) into modern ones (machine shops, vehicular mechanics, furniture making). The Project is not expected to have any significant impact on the village artisans.

Transhumant tribal groups visit the area in winter months. The menfolk do some trading, sell livestock, or find non-agricultural work in the area, while the women and children forage their livestock. This group will not be negatively affected by the Project.

2.3.7 Impact on Women

During the planning period, a social survey of women was undertaken to inform them about the Project through scoping sessions and to assess the Project's impact on them. The survey
found women are active in performing not only their traditionally assigned domestic roles but they also contribute directly to the acquisition of household income. Women help to plant, harvest and process crops, care for poultry and livestock, and help to renovate their homes at least twice a year. Because women are involved in a range of activities, those whose homes and farms will be displaced will be broadly affected by the Project.

The survey also showed high illiteracy among women as well as inadequate health coverage, two areas where the Project will provide direct benefits to women through the IRDP. Results also show women practice saving money; therefore, credit schemes will also be designed to include women.

The focused census has indicated a significant ownership of land among women through inheritance. Of the total 19,875 affected land owners, 7,543 (38%) are women. Therefore the Project will take measures to insure that women receive the compensation to which they are entitled, both in terms of cash and land.

In addition, the PNGO will have a specific focus on women affectees and the IRDP will have a specific component for women.

2.4 ENTITLEMENT POLICY AND PACKAGES

2.4.1 Entitlement Policy

The Project is committed to providing entitlements to persons who lose their land or other property as well as to those others whose livelihood is directly affected by the acquisition of land. The provisions of Pakistan's laws that apply to such situations will be followed.

These entitlements will be supplemented by entitlements for landless affected people and by Project activities such as training, work opportunities and credit in addition to provisions for infrastructure and an integrated regional development plan. WAPDA is committed to the provision of these additional entitlements and necessary funding allocations have been made for them.

These combined Project efforts are intended to meet the resettlement objectives of rendering the affected people with a standard of living equal to if not better than that which they had before the Project.

2.4.2 Entitlement Packages

In determining entitlements, the purpose has been to identify category of loss rather than category of person affected, as some Entitled Persons (EPs) will suffer more than one loss. The process of establishing particular entitlements has involved first establishing the legal rights that pertain and the legal
provisions that would determine the entitlement. However, there are also pertinent instances (viz. occupancy, work) where the law does not provide specific entitlements yet entitlements are warranted. In such cases, an effort has been made to provide entitlements that are appropriate to the loss and offer favorable prospects for EPs improving their livelihoods.

The work opportunities provided under the Project will consist of priority in Project employment with the Contractors and WAPDA through the issuance of work permits. Holders of green work permits will be given priority over those holding blue work permits, who in turn will have priority over non-permit holders. In consideration of the vulnerability of the affected household, the project will provide more than one green permit per affected family on the basis of number of adult members of such family. Holders of green work permits will be paid Rs. 500 Per month for a period of up to one year or until they find work, whichever is earlier.

Training programmes for project affectees will be organised. These programmes will be aimed in part at EPs who want to invest the cash compensation they receive from their land in new business opportunities in the area. These income-generating schemes could include construction skills, driver training, poultry farming, fish farming, carpet manufacture, embroidery centers, furniture manufacturing, motor workshops, lathe machine shops, business skills for small wholesale or retail outlets, roadside shops, typing and basic computer skills.

A programme of income generating schemes and grass-roots credit facilities will also be designed and implemented for the project region. Loans on easy repayment terms will be provided to those who want to open a small business or self-employment scheme. The programme will assist borrowers to plan investments that are feasible. The PNGO will ensure that the programme is easily accessible and that the procedures for the sanction and grant of loans are simple. At the same time, adequate measures will be taken to safeguard recoveries, so that more and more people can benefit from the programme.

With respect to access to such services as training and credit, priorities have been established based on the loss category and the value of other entitlements provided. Priority will be given to landless affectees.

To ensure general uplift and planned development in the whole area affected by the project, WAPDA is having an integrated regional development plan prepared. This will include social uplift (education, health); agricultural development (credit, extension services); and business/industrial development (small and medium scale). The plan will also include programmes for women and will stress long-term job development in the region.
Finally, possible risk factors such as construction delays have been considered that could adversely affect entitlements, particularly for the most vulnerable groups.

Table 2.10 summarises the type of loss, the definition of the entitled person and the entitlement, additional facilities/services to be given to the entitled person, the actions to be taken and the organisations responsible.

Loss of privately-owned agricultural land

All EPs losing irrigated and barani land will be entitled to both cash and land compensation.

In order to minimise the period during which affectees will be deprived of agricultural income, they will be permitted to farm the land, even after WAPDA has taken possession, until the land is required for construction. Thus the maximum period for which affectees will not have land for cultivation will be less than two years.

Cash compensation will be based on the market value of land plus an additional 15% as compensation for compulsory acquisition of the land. The compensation land will be on the spoil banks, which will be provided with tubewells for irrigation.

Losers of irrigated land will be entitled to purchase, at barani rates, the same amount of irrigated land on the spoil banks as they lost to the project. The value of irrigated land is generally at least twice that of barani land. The cash savings gained from a lower purchase price and the interest gained from the amount fixed in the joint account for repurchase of land on spoil banks, supplemented by compensation from other losses (land improvements), will enable these affectees to support their households in the transition period between the loss of their land and their gaining spoil banks land. These resources will also allow them to invest in their new land and compensate their income loss during the period till the land comes to full production. If there are individual cases where the total cash saving (including compensation) is less than half the land compensation, then additional compensation will be provided.

Losers of barani land will be entitled to purchase half the amount of irrigated land on the spoil banks that they lost to the Project, at the same rate. Their savings as enumerated for the owners of irrigated land will be used to support their households until irrigated land becomes available on the spoil banks and to provide resources to invest in their new farms. The savings will also compensate for their loss of income for the transition period till the spoil banks come to full production.

Stamp duty on the purchase of land on the spoil banks will be paid by WAPDA, if it is not waived by the provincial Governments.
These landowners will also be entitled to blue work permits and Project credit and training opportunities.

Landowners who are losing their entire land to the Project and who have no other sources of income will be given priority work permits (green) as well as priority access to Project credit, training and employment opportunities. The work permit facility will be extended to all unemployed adult members of such households.

**Loss of Privately-Owned Uncultivable Land**

All EPs losing uncultivable land will be entitled to cash compensation. They will also be entitled to blue work permits and Project credit and training opportunities.

If spare land is available on the spoil banks, losers of uncultivable land will be entitled to purchase irrigated land on the spoil banks equal to one-fourth the amount of land they lost to the Project.

**Loss of Shamilat (Common) Land**

All EPs losing shamilat (common) land will be entitled to cash compensation in proportion to their ownership share.

**Loss of Crops, Orchards and Other Trees**

All EPs losing crops, orchards and other trees will be entitled to cash compensation.

**Loss of Agricultural Infrastructure**

All EPs losing agricultural infrastructure (tubewells, wells, farm buildings, etc.) will be compensated at full replacement value.

**Loss of Residential Houses**

The owner of the plot on which the house is constructed will be provided a plot equal to his plot (or a minimum of 500 sq m).

The owner of the house structure will be provided cash compensation equal to the replacement cost of his house to enable him to build a replacement house on the allotted plot (Chapter 8). If the owner of the house structure is not the owner of the plot on which the house is constructed, the structure owner will be provided a plot of 500 sq m.

Occupants who occupy a structure but are not owners will receive a residential plot of 500 sq m and credit for construction of a house on the plot.

2.11
If there are additional inhabitants over 25 years of age in the house, each inhabitant will be provided an additional plot of 500 sq m, subject to a maximum of 1,000 sq m for the additional inhabitants per house being relocated.

Salvage rights of housing materials will be given to whoever is the owner of the house structure.

Fragmentation of Landholding

An EP who is losing part of a contiguous landholding, and the residual fragment is smaller than 0.1 ha, will be entitled to have the residual fragment also acquired.

Severance of Landholding

An EP who is losing part of his landholding, and the residual landholding is adversely affected by the severance, will be compensated in accordance with the provisions of the Law.

Change of Residence or Place of Business

If as a result of land acquisition, a PAP is compelled to change his residence or place of business, he will be compensated for the reasonable expense incurred for such change.

Loss of Tenancy Rights

Any tenants with a legally-valid tenancy will be entitled to a part of the cash compensation payable for the land and to compensation for any land improvements they have made, in accordance with the provisions of the Law and the terms of the tenancy. Such tenants will be provided blue work permits and access to credit and training.

Informal tenants will be entitled to compensation for any land improvements they have made and will be provided with green work permits and priority access to credit and training. The green work permits will be given to all unemployed members of the households losing informal tenancy rights.

If the residual tenancy is less than 0.5 ha, tenants will be entitled to priority in the purchase of surplus land on the spoil banks up to one-half of the tenancy land acquired for the Project.

Losers of standing crops, orchards and other trees will receive cash compensation for these assets.

Loss of Rental Rights (Ijaradari)

Ijaradars will be entitled to a part of the cash compensation payable for the land and to compensation for any land improvements they have made, in accordance with the provisions of
the Law. The annual net profit from the land will be capitalised for the remaining part of the lease. They will be provided blue work permits and access to credit and training.

Ijaradars will have the same entitlement as tenants for the purchase of surplus land on the spoil banks.

Losers of standing crops, orchards and other trees will receive cash compensation for these assets.

Loss of Employment

Those who lose employment (permanent agricultural labourers and family labourers) will be given green work permits and priority access to Project training and credit schemes.

Seasonal labourers determined to be significantly impacted by the land acquisition will be eligible for blue work permits and given access to Project training and credit schemes.

Reduction in Fisheries

The study has indicated that the Project will not significantly affect the fisheries in the Indus. The fishing is normally carried out at the time of flood recession (September through November) and a few months after during low flow season. With the Project in operation fishing during flood recession will not be affected. Reduction in catch during low flow season will be compensated through development of fisheries in the barrage pond and headponds. The EPs will be given permits for fishing in these ponds.

2.5 IMPLEMENTATION STRATEGY

The key actor in implementing the resettlement components of the Project is WAPDA. In order to prepare itself for this role, WAPDA has undertaken to create the Project Resettlement Organisation (PRO) and, as part of this Organisation, the Social Sciences Branch (SSB). Some staff have been assigned to the positions created, including the Superintending Engineer, but some positions still lie vacant. In order for these entities to properly carry out their responsibilities, these posts will be filled by October 31, 1994.

Much socio-economic information has been collected during the planning period and data collection continues with focused census and sample survey teams presently in the field. This information is valuable to the Project as baseline information and subsequently will be useful in making management decisions as well as in monitoring and evaluating the Project's resettlement activities. WAPDA will upgrade its MIS capacity in order to cater for these needs and in this it will need to engage technical assistance in designing and bringing on line an
appropriate MIS for the Project. This technical assistance will be contracted for by October 31, 1994.

The process is underway to appoint a Project NGO (PNGO) to carry out various resettlement-related activities, such as forming Project Contact Committees, overseeing the land acquisition process, ensuring that locally acceptable solutions to grievances are adopted, and assisting with resettlement on the spoil banks. The PNGO will have a Trust fund to assist in its operations, and an advisory board to guide its activities. This PNGO will be registered and become operational by November 30, 1994.

Following approval of the RAP, the PRO of WAPDA will prepare pamphlets explaining each category of entitlement, along with such items as the Certificates of Compensation and different work permits, and will distribute them to all affectees. The PRO will follow up with scoping sessions in the Project area with the affectees to make sure that they have understood all the matters in which they will be affected.

The list of EPs was initially drawn up based on revenue records and a preliminary siting of the ROW. This list has been refined at subsequent stages, after necessary adjustments in the ROW and carrying out of the focused census. The next step is for the District Revenue authorities to verify the land records related to the land to be acquired by the Project.

A Land Valuation Committee will be formed to determine fair and equitable compensation for land that will be acquired in the Project Area.

The entire process of valuation, acquisition, possession and award will be completed prior to the start of construction.

After land acquisition awards have been made (Section 11), payments will be made to the EPs. This will follow different procedures depending on the type of entitlement. Those who are just to receive cash compensation will be paid outright. Those who are to receive a combination of cash and land will receive their cash in the first instance and their land through established procedures. Those who are to receive land for land will also open joint bank accounts with WAPDA for holding the funds required for purchase of land on the spoil banks.

Houseowners will receive their compensation payment in four equal installments: an advance installment, at completion of foundations, upon wall completion, and upon roof completion. They will be moved with their materials to their new houses by the Project and the vacated houses will be immediately demolished.

Once EPs become directly affected by the Project, a programme of compensatory activities involving credit, work opportunities and vocational training will be made available to them, organised by the SSB and the PNGO. A priority for these activities will be involvement of women and vulnerable groups, such as the landless.
They will be included early on in the planning stages and ultimately they will directly benefit from these activities.

Coordinating the resettlement activities related to the spoil banks will be the responsibility of the SSB and the field teams organised by the PNGO. Once the number of landowners opting for spoil banks land are identified, the process of involving them in the equitable demarcation and allocation of plots will begin. During this time tubewell sitings will also be identified. As the SSB staff and field teams work with the landowners on plot demarcation and allocation, they will also orient them to becoming shareholders in Tubewell Users' Associations (TUAs). Once plots are assigned, the work of organising the TUAs will begin. These will be formed before tubewells are installed so that TUA members can assist with the tubewell installation and learn its operation. Once the tubewells are commissioned, the PNGO will be responsible for technical support and monitoring the functioning of the TUA. WAPDA will warranty the tubewell from bore failure for a period of five years, provided that the association operates the tubewell in the prescribed manner and undertakes scheduled maintenance. WAPDA will formally transfer the ownership rights of the tubewells to the TUAs.

2.6 CERTIFICATES OF COMPENSATION

WAPDA's Project Resettlement Organisation (PRO) will prepare a signed Certificate of Compensation for each landowner, tenant, household head, or other affectee losing land, dwelling, or other property to the Project under the Land Acquisition Act. Similar Certificates will also be provided for affected village landless households. Each Certificate will also note:

- The owner, as recorded in the updated land records, and identified by his or her national identity card.

- The precise physical details of the property to be acquired. For rural land this will include the size of the plot, quality of soil, value of fruit and other trees, details of any water supply (artesian or tubewell, hand pump), details of infrastructure (e.g., lined watercourses) and other pertinent information. For a dwelling, this will include its dimensions, construction materials, machinery (e.g., water pump), and other utility features, such as wiring, piping, water tank, etc.

- The value of all assets to be acquired and the compensation payment due (items to be salvaged by the owner will be noted as such).

- Any other compensation due, and the precise terms on which such compensation will be made.
For landholders, a record of whether or not they wish to repurchase land on the spoil banks and, if so, the amount of the compensation payment to be held for them in a profit-bearing account against that purchase. The profit will be the property of the landholder.

For landowners and tenants, the estimated construction schedule, as it will affect their village, and the grant of a license to freely cultivate their former land until such time as the land is actually required for the construction of the Project.

Copies of each Certificate will be provided to the Social Science Branch in the Project Resettlement Organisation, the District Council and/or the village elders, to ensure both transparency and subsequent cross-checking of actual payments.

This process will mean considerable additional work for WAPDA, but a high degree of transparency in the compensation process is essential for guaranteeing equitable treatment of the PAPs.

At the time of payment of compensation, individuals entitled to compensation will be able to open accounts with mobile commercial banks. A joint account with WAPDA will be opened for each affectee who will be purchasing land on the spoil banks.

Funds will then be transferred into each individual account in the amount to which that individual is entitled. The Project field teams will cross-check the amounts deposited in the accounts with the Compensation Certificates to ensure that full compensation has been paid into each account. The Project field teams will assist those affectees who may lack literacy or experience with banks in the handling of their accounts.

Information campaigns will be organised and booklets distributed outlining entitlement principles and procedures to ensure that affected persons are made aware of the benefits available to them and the procedure for claiming them.

2.7 MONITORING AND EVALUATION

There will be three agencies with responsibilities for monitoring: WAPDA's Project Resettlement Organisation (PRO), Monitoring Consultants and the PNGO. These agencies will also coordinate with the WAPDA Environmental Cell on resettlement-related matters and through their representation on the Environmental and Resettlement Review Committee they will be able to jointly monitor related matters on a periodic basis.

The PRO's Monitoring and Evaluation Unit (MEU), attached to the organisation's Social Science Branch (SSB), will monitor PRO's implementation responsibilities and activities and report to the Chief Engineer & Project Director on a monthly basis. They will
be assisted by the Monitoring Consultants who will train MEU staff on organising, planning and implementing the PRO's monitoring and evaluation activities. The MEU will utilise the Project MIS for monitoring and evaluation. The PNGO will be responsible for monitoring its own activities, particularly involving credit, training and self-employment schemes, and sharing this information with the MEU.

2.8 REDRESSING GRIEVANCES

The list of EPs and their entitlements is nearing finalisation. There may still remain some EP claims that require verification, however. If necessary, the following proofs may be used to verify EP status:

- copies of land titles, mortgage deeds, revenue receipts or other legal tender showing land ownership or tenancy;
- in case of tenant-farmed or rented land, documentary evidence of the understanding between the landowner and the tenant, if available; also by reference to focused census results;
- rent receipts in case of rented properties;
- wage records in case of wage employment and by reference to focused census results; and
- for proof of residence, voters lists or any other official membership records with banks or cooperative societies, if available; also by reference to focused census results.

Where necessary, the PRO will review these records and if they are unable to make a determination, the matter will be passed on to the Land Valuation Committee.

Though the primary function of this body will be to determine property valuations, it will also serve as a dispute/grievance resolving body in such matters as EP verification, land valuation, land acquisition, compensation or other matters where EPs may have a grievance.

This committee will be composed of the Assistant Commissioner of the respective subdivision, a WAPDA representative of Grade 19 level, a ranking officer of the PNGO, and two representatives of the EPs from the respective village. The representatives will be EPs losing private land and nominated by other EPs losing private land.

The committee will consider such grievances once a month. It shall endeavour to bring about a mutually acceptable solution to any such grievance after a free and open discussion of the
relevant issues. Should an EP still be dissatisfied, he or she may appeal to the District Magistrate's office or a court of law.

2.9 PROJECT RISK ASSESSMENT

During the course of carrying out the RAP there may be occasions when risks to effective implementation will be considerable. Should these risks become obstacles or road blocks, the interests of the EPs will be set back rather than advanced. Therefore, it is important to identify areas of risk and try and assess how likely they are to become problems. Should they then develop, they will not be unexpected and measures can be planned for to resolve or ameliorate them in a timely fashion.

There are several areas of particular concern and risk for the EPs. These include:

- equitable and timely valuation, acquisition and compensation of their lost assets;
- difficulties in demarcating and allocating the plots on the spoil banks;
- delays in construction that postpone their resettlement;
- staffing of key positions;
- the potential for social and political unrest developing from local issues; and
- the effectiveness of the PNSO.

The first is a critical risk area that will determine the fate of the Project's resettlement efforts. This issue, frequently raised in scoping sessions, reflects local worries that, based on past experience, these activities will not go smoothly, fairly or efficiently. However, the establishment of a Land Valuation Committee (LVC), with sufficient standing and broad representation to reach decisions that can be endorsed and implemented by the Land Acquisition Collector, should serve to allay such fears. As noted, the LVC will also have dispute-settling authority which will further enhance its standing in the eyes of affectees.

The second is a key challenge to the Project's staff and the PNSO as they will need to identify an effective mechanism that allows EPs to work together in making decisions that will have far-reaching consequences. Yet a challenge of this kind presents a major opportunity which if handled properly by the PNSO and the PRO should result in successful resettlement that could become a showcase for the Project. The PNSO will work closely with the new farmers and train them in organisational and leadership techniques along with orienting them to the responsibilities of
operating and maintaining a tubewell for irrigation purposes. They will also be exposed to ways to fairly and effectively settle disputes. A motivation, if not an incentive, to cooperate will be the knowledge that they are all in the TUA together, and that delays arising from disputes will result in losses to each of them.

The provision of allowing farmers to continue farming activities even after WAPDA has taken possession of the land until the land is required for construction will reduce the impact of construction delays to local areas. Even so contingency plans will be drawn up ahead of time that either make cash provisions or extend Project services to those who are adversely affected by construction delays.

Another area of Project risk involves the organisational arrangements for the Project. Specifically, it involves issues of staff who are not posted to key Project-related positions, or staff who are posted to such positions but after a time are transferred to another post and their position is not promptly re-filled. To avoid or minimise these contingencies, high-level support and commitment will be required to have competent staff placed in key positions over the Project's entire life. The importance attached to this Project by the Government provides a reasonable degree of surety that such support and commitment will be available.

Another area of risk is the potential for social and political unrest developing from local issues and demands that are not properly addressed. These will need to be carefully handled and contained through deliberate planning and judicious exercise of authority if the Project is not to suffer.

There are also risks that pertain to the PNGO's effectiveness in representing and advancing EP interests; the availability of staff sufficiently trained to monitor the resettlement process and assist in organising TUAs; and in organising credit programmes, vocational training activities and self-employment schemes. These risks will be reduced by ensuring that the PNGO's staff itself has the necessary expertise and experience in these areas so that they can effectively carry out their Project responsibilities.

REFERENCES

2.1 Pakistan Hydro Consultants; Ghazi-Barotha Hydropower Project, Additional Supplementary Environmental Studies, August 1994.
CHAPTER 3

ORGANISATIONAL FRAMEWORK AND RESPONSIBILITIES
3.1 ORGANISATIONAL FRAMEWORK

The Water and Power Development Authority (WAPDA), as the designated agency of the borrower (GOP), is responsible for the resettlement of the people affected by the Ghazi-Barotha Hydropower Project (GBHP). For the efficient implementation and management of resettlement activities, a Project Resettlement Organisation (PRO) has been created within WAPDA. This Organisation will be under the direct authority of the Project's Chief Engineer and Project Director and will be headed by a Superintending Engineer. The PRO will be responsible for the overall implementation, management and monitoring of the RAP after its formal approval by the GOP.

WAPDA fully recognises the very complex nature of resettlement and the limited availability of personnel with relevant experience and expertise. It is not feasible for WAPDA to develop all necessary in-house expertise and capacity within the available period of time. The organisational framework developed for implementation of the RAP and monitoring of related activities takes into account these limitations and reinforces the capabilities which WAPDA can provide with support from outside agencies, such as the Project NGO and the Monitoring Consultants.

An External Environmental Panel of Experts, attached by the World Bank to the Project, will review from time to time the overall progress of the implementation and monitoring of the RAP.

Drawing 3.1 shows the Project entities which will be involved in resettlement issues. The responsibilities of these organisations are given below.

3.2 WAPDA

3.2.1 Chief Engineer & Project Director

The Chief Engineer & Project Director (CE&PD), Ghazi-Barotha Hydropower Project, will be in charge of all aspects of the construction and development of the Project. This includes land acquisition, resettlement, and other environmental and social mitigations. The CE&PD will review the progress and oversee all programming being implemented under the land acquisition procedure and the Resettlement Action Plan. He will coordinate with all other agencies dealing with the Project.
3.2.2 Resettlement and Environmental Review Committee

The CE&PD will organise the Resettlement and Environmental Review Committee (RERC) under his chairmanship. The RERC will meet every two months at a minimum, with special meetings to be called when necessary. The members will include the Superintending Engineer Resettlement, a representative of each of the construction contractors for the power channel and power complex, the Project Senior Social Scientist, a representative of the WAPDA Environmental Cell (WEC), a representative of the PNGO and an observer from the Monitoring Consultants. The purpose of the RERC will be to coordinate the resettlement and environmental mitigation action plans with construction schedules, deal with safety issues and farm movements, work out solutions in the event of unforeseen impediments to the smooth working of the Project construction, and deal with unanticipated events. The RERC will also provide referent and advisory services to the PNGO.

3.2.3 Project Resettlement Organisation

This organisation is headed by a Superintending Engineer. Its office is established at Ghazi. It will be responsible for:

- the acquisition of the land before the civil works contracts are awarded;
- the resettlement of all Project Affected Persons (PAPs);
- the sponsorship of all socio-economic mitigations;
- the litigation of cases in the Civil Courts awaiting final adjudication, and
- coordination with the PNGO on the implementation of the integrated regional development plan.

On account of the limited in-house availability of resettlement expertise, WAPDA will carry out training for its staff in the PRO as well as in related positions. This training will be carried out as early as possible in order to properly equip the concerned staff with the knowledge and techniques they will need to support successful resettlement activities. WAPDA will contract technical assistance for planning and carrying out this training. The contract will be signed by October 15, 1994 and the training completed by November 30, 1994.

The PRO will be operational from the start of the implementation stages, until the post-Project period.

Drawing 3.2 shows the structure of the Project Resettlement Organisation. The duties of its staff are given below.
Superintending Engineer Resettlement

The Superintending Engineer of the Resettlement Organisation will be responsible for the proper planning, execution and timely completion of all the land acquisition and resettlement works. He will work in close coordination and involvement with the staff of the Social Science Branch, PNGO field teams contracted to the PRO, Environmental Cell of WAPDA, Monitoring Consultants and the Land Acquisition Collectors (LACs) appointed by the respective Provincial Governments.

The Superintending Engineer Resettlement will be responsible for the provision of funds for the land acquisition and other resettlement works. On behalf of WAPDA, he will prepare signed 'Certificates of Compensation' for all Project-affected persons losing land or livelihood due to Project land acquisition. He will work with commercial banks to work out modalities for joint deposit accounts. He will maintain close liaison with the administrations of the districts of Haripur and Attock. He will be responsible for the execution of the resettlement works, both in terms of their quality and timely completion, in accordance with the Project policy on resettlement.

The Superintending Engineer Resettlement will resolve all disputes affecting the Project works through the Project field teams, Project contact committees, and senior representatives of the local population. He will also supervise the rehabilitation of the spoil banks, the construction of irrigation tubewells thereupon, and the allocation of land and irrigation rights on the spoil banks. He will assist in the bringing of the spoil banks to optimal levels of production. The official assignments of the various units under him are given below.

Social Science Branch (SSB)

This Branch, headed by a Senior Social Scientist and including a Senior Agronomist, will be established within WAPDA's Environmental Cell and seconded to the Project Resettlement Organisation. The SSB will act as the Project's operational unit on the social dimensions of resettlement as well as on the other social impacts.

The Senior Social Scientist will play a key coordinating and oversight role in Project resettlement. He will report to the Superintending Engineer Resettlement, but will be responsible for directing the Social Sciences Branch and offering guidance to the Project field teams (PNGO). He will advise the Chief Engineer on all other aspects of Project social effects and mitigation. He will also coordinate on social and resettlement issues with the WAPDA Environmental Cell, the Monitoring Consultants and the PNGO.

The Senior Agronomist will be responsible for planning and guiding the development of the spoil banks for productive
agriculture. This will include the mobilisation of expertise and extension services from other agencies as required.

The Social Science Branch will also have Community Development Specialists (male and female), a Development Specialist in women's issues, and two Junior Field Social Scientists (male and female) and one Data Entry Technician. The SSB will form Project field teams with PNGO personnel for certain tasks, and with other personnel of the PRO, such as engineers or land acquisition staff as appropriate, for other tasks. It will also have the following responsibilities:

- evaluate all socio-economic information collected to serve as baseline information for the Project, determine what information will need to be updated as the work proceeds, and have the information entered into the Project MIS.

- maintain and update a database of all information involving Project-affected persons. Data will be kept by household and include: household income lost; land and other properties lost; compensation (date and amount) paid for loss of properties, crops, etc; work permits assigned; jobs gained on the Project; land acquired on the spoil banks, etc. All data will be confirmed by reference to the PAPs.

- work with the PRO engineering staff to implement the relocation of Project-affected houses and organise the resettlement villages, including resettlement village committees.

- arrange for the relocation of graves in the Project ROW and reconstruction of community properties; these efforts will be coordinated with the PRO Engineering Staff.

- design and operate the work permit system, to ensure that those directly affected by the Project are given priority in hiring (both with contractors and WAPDA) and that labour hiring practices on the Project generally benefit the PAPs.

- oversee the Barotha construction area, to ensure that irrigation is maintained/replaced, and that land acquisition, access roads, work sites, housing areas (temporary and permanent), social services and sewerage disposal meet social/environmental standards and do not destabilise the village.

- ensure that safety measures during construction are coordinated with the movements required for agriculture, herding, funeral processions, visits to shrines, etc.
The SSB will be re-absorbed into the WAPDA Environmental Cell when the Project Resettlement Organisation is dismantled. It will continue to work on resettlement and social issues in the Project as long as this is necessary.

Legal Branch

The Legal Branch will assist the Project Resettlement Organisation in all legal aspects of land acquisition and resettlement. These functions include:

- developing standardised Certificates of Compensation, which WAPDA will prepare for each individual losing land, dwelling or other property to the Project, as well as for the family heads of village landless groups losing income from land.

- advising the CE&PD and the Superintending Engineer Resettlement on all legal matters, pursue litigation in courts of law, and coordinate on all issues with the Legal Department of WAPDA. It is expected that the issuance of Certificates of Compensation to the PAPs and the availability of a grievance procedure will reduce the number of legal claims. However, WAPDA realises that reference to a Court of Law is a right that some PAPs may be inclined to use.

- advising and assisting the Social Science Branch and the Project field teams in the legal aspects of water management. This includes the agreement, in consultation with the Tubewell Users Associations and the PNGO, of articles of association for the joint ownership of tubewells on the spoil banks.

In carrying out these functions, the legal branch will consider the recommendations given by the task force which reviewed the legal aspects of the various provisions of the RAP (Chapter 6).

Administration Branch

This branch will be headed by a Senior Superintendent and will work for the Superintending Engineer Resettlement on matters of general administration and in correspondence with outside agencies. WAPDA will staff this branch in accordance with its standard guidelines for such staff.

Accounts Branch

The Accounts Branch will be headed by a Budget & Accounts Officer (B&AO) of WAPDA and will be responsible for payments, operation and maintenance of accounts, preparation of budgets, and assisting the Superintending Engineer in arranging the cash for the anticipated monetary demands/liabilities as they become due. The Accounts Branch will assist in opening of compensation

3.5
accounts for each Project affectee eligible for compensation. It will work with the Project field teams to confirm that full compensation payments have been made. This branch will be staffed according to the guidelines of WAPDA and Project requirements.

**Drawing Branch**

This branch will be headed by a Circle Head Draftsman and will be responsible for preparing drawings, keeping the drawing folios in a proper order and checking the estimates for the works to be constructed. These include large-scale maps of all land acquired for the Project, with all plots, dwellings, and other private infrastructure noted. The Drawing Branch will also work with the Project field teams and Tubewell Users Associations to provide maps of all tubewell command areas on the spoil banks, showing plots and feeder watercourses.

**Engineering Staff**

**Senior Engineers.** There will be two Senior Engineers designated as Executive Engineers. One will be stationed at Tarbela for District Haripur area matters, and the other in the proposed Power Channel Colony at Lawrencepur for District Attock area matters. Their offices will be staffed with engineering sections as the quantum of work requires. The Senior Engineer will be responsible for:

- Assessing the replacement value of built-up property and other connected facilities of the Project affectees and recommending the payment of the estimated amounts so assessed. These recommendations will be used in the Certificates of Compensation.

- Organising the construction of the requisite infrastructures in the resettlement villages on the sites chosen by the people of Ghazi-Khalo, Banda Feroze and Barotha.

- Working with the PNGO to locate, design and construct the schools and other infrastructure to be provided under the Integrated Regional Development Plan.

- In coordination with the SSB, arranging for the removal of a group of graves at Banda Feroze, which are in the right of way of the power channel near Ghurhushti.

- In coordination with the Project Agronomist, supervising the design, siting and construction of irrigation tubewells on the spoil banks. These tubewells will also be tested, certified, and looked after by the Engineering staff until they are handed over to the Tubewell User's Associations. The Engineering staff will train the Associations in the proper operation and maintenance of the tubewells.
Junior Engineers. Two Junior Engineers will be attached with each Senior Engineer to assist him in framing estimates for the works to be executed under the resettlement plan and to supervise the construction of such works.

Sub-Engineers. Each Junior Engineer will be provided with at least three Sub-Engineers for the preparation of the estimates and to oversee the construction of the works to be carried out by WAPDA under the RAP.

Supporting Staff. Each Senior Engineer will be provided with an Accounts Section, Drawing Branch and Survey Parties, staffed in accordance with the established practices of WAPDA.

3.3 PROVINCIAL/DISTRICT GOVERNMENT STAFF

3.3.1 Land Acquisition Collector and Staff

A Land Acquisition Collector will be deputed from the Government of NWFP and stationed at Tarbela to execute the land acquisition for the 12 villages of District Haripur. Similarly, a Land Acquisition Collector will be deputed from the Government of Punjab for the land acquisition work of the 38 villages in District Attock.

Each Land Acquisition Collector will be supported by one Tehsildar and an adequate number of Naib Tehsildars, Kanungos and Patwaris. The Land Acquisition Collector will work with the Land Valuation Committee to determine the realistic market price for land and fair compensation rates for other property.

Separate staff, working under a Tehsildar, will be responsible for recording land redistribution on the spoil-banks and any other transfers of property (house plots) to the Project-affected persons (PAPs). On behalf of the resettlers, the Resettlement Organisation will make sure these holdings are fully and properly titled, deeded and recorded and that the resettlers are not subjected to difficulties in having their land ownership recorded.

The responsibilities of the LAC's staff are described below.

Patwaris

The Patwaris will be responsible for:

- copying the names of the owners of the land from the Jamabandi maintained by the Provincial Revenue Staff;

- noting down, on the prescribed form: tenants, field numbers with area, mode of irrigation and land revenue paid by the owners/tenants;
- after preliminary notification under Section 4 of the Land Acquisition Act is issued, completing Naqsha (Form) No. 1 prescribed by the Department for land needed for any public purposes including: name of owner, mortgagee, permanent tenants, land area, land revenue collected in cash or kind, classification of land, crops, trees, wells and houses existing on the land to be acquired; and

- completing the form of Naqsha No. 2 after implementation of Section 8 of the Land Acquisition Act by the Collector, illustrating field numbers which are to be acquired, area in acres, classification of land and compensation to be paid for the land, trees and buildings, if any, and total compensation.

The information given in Naqsha No. 2 will be based on the compensation determined in accordance with the procedures described in Chapter 8 and will be coordinated with the information given in the Certificates of Compensation.

Kanungo

The Kanungo will be responsible for guiding the Patwari in legal and revenue matters and, if necessary, solving any problem faced by the Patwari at site. He will also cross-check the documents prepared by the Patwari.

Naib Tehsildar

The Naib Tehsildar will be responsible for checking the work of the Patwaris and Kanungos, in particular the correct completion of the prescribed forms by the lower staff, which will be helpful in the announcing of the award by the Land Acquisition Collector.

Tehsildar

In addition to the duties prescribed for the Naib Tehsildar, the Tehsildar will also inspect the site if classification of land is challenged by interested persons after issuance of notices under Sections 9 and 10 of the Land Acquisition Act.

3.4 PROJECT NON-GOVERNMENTAL ORGANISATION (PNGO)

WAPDA will establish a PNGO to assist in carrying out resettlement activities. This PNGO will continue the practice started early during Project planning of consulting local communities and will take the process further by actively involving these communities in their own resettlement. The PNGO will be staffed by individuals with demonstrated experience in grass-roots and village organising and in developing community level credit and self-employment generations schemes.
WAPDA will be entering into an agreement with the National Rural Support Programme (NRSP) for the establishment of the PNGO. The NRSP will provide four three-person field teams (one supervisor/team leader, and one male and one female village organiser per team) to constitute the initial core of the PNGO field staff. These teams will work with the Social Science Branch to form Project field teams. The contract will provide for additional training to familiarise the field teams with the Project, the region, the administration of land records, and the Land Acquisition Act (1894). The initial contract with NRSP will be for three years, with add-on provisions for additional work, as required by conditions in the Project and the administrative evolution of the PNGO.

The PNGO will start functioning by November 30, 1994 and will have the following features:

- The legal organisation and registration of the PNGO will be under Section 42 of the Companies Ordinance (XLVII of 1984). The Companies Ordinance provides for the greatest degree of financial accountability and transparency of operations, as compared to those of the Cooperatives Act and the Societies Act. These features will help to attract foreign donor support which the PNGO will solicit for the Integrated Regional Development Plan (IRDP). The PNGO will also register with the Trust for Voluntary Organisations (TVO) at Islamabad.

- The PNGO will have a Governing Board, which will include WAPDA's Member (Water) and the Chief Engineer and Project Director (GBHP). The Board will be self-perpetuating and will always include at least one woman. It may also elect to include three noted individuals from the Project region, one each from the Ghazi, Chhachh and Sarwala sub-regions, having demonstrated involvement in development in their areas. The Governing Board will hire the Director of the PNGO and approve senior staff hiring. It will oversee the operations of the PNGO and approve annual budgets and the IRDP.

- A restricted Trust Fund will be established to support the operations and administrative overhead of the PNGO. WAPDA has committed Rs. 100 million as seed money for the PNGO. Of this sum, Rs. 10 million will be used during the first year to organise the PNGO, hire staff, and initiate operations. At the same time, the remaining Rs. 90 million will be deposited in the Trust Fund, its profits to be used in subsequent years for overhead and operations. The PNGO will recover the initial Rs. 10 million from its profits over five years for redeposit in the Trust Fund. The annual profits from the Trust Fund are expected to be more than sufficient to support the PNGO, with funds left over for local development work. In addition to the Rs. 100 million, the PNGO will be provided Rs. 30 million under the Project to be used...
exclusively for credit and self-employment generation schemes in the Project compensatory programming. A further Rs. 146 million will be available under the Project for the IRDP.

The PNGO will administer the Integrated Regional Development Plan.

The role of the PNGO will be vital to the success of key compensatory activities in the Project. The PNGO will participate in the following actions:

- Assist in the formation of Project Contact Committees at the village level.

- Liaise with local NGOs to find ways the latter can assist in Project aims and operations.

- Assist the SSB in further scoping sessions with PAPs to provide Project-related information, particularly on the provisions of the RAP.

- Participate as a member of Land Valuation Committees to assess market values of land and communicate these to the Land Acquisition Collectors.

- Ensure that all PAPs are fairly and promptly compensated.

- Ensure that interests of vulnerable PAP groups (women, minors, landless affectees) are adequately safeguarded.

- Assist the PRO and Land Acquisition Collectors in ensuring that Certificates of Compensation are signed with all PAPs.

- Assist in formalising consensual agreements between WAPDA and relevant PAPs covering land for land compensation.

- Assist in working out the modalities for opening joint bank accounts.

- Assist the SSB in organising agrarian production systems on the spoil banks, including farmers' committees to decide on the organisation of the field system, an equitable plot allotment procedure, the formation of tubewell users associations, the establishment of warabandi (water distribution), and the mobilisation of agriculture extension services by other government agencies.

- Work with the Project Resettlement Organisation and the Project Contact Committees to see that schedules--for resettler housing are maintained. Work with the affectees to allocate plots in the new settlements,
decide on other layout features, and the development and implementation of a detailed plan to move the resettling households.

- Work with the land acquisition staff to insure that the resettlers receive title and deeds for their new land in a prompt and efficient manner.

- Assist the SSB in the development of lists of work-eligible individuals in those Project-affected families with a work permit, grouped in skill categories relevant to the Project. Check to see that these people are being hired for work on the Project in accordance with the established priorities.

- Assist PAPs in gaining access to training and credit facilities in accordance with the established priorities.

- Assist the SSB in aiding Barotha village and other vulnerable areas to cope with Project impacts and gain Project benefits, and assist in the settlement and development of village community organisations in the resettlement villages.

- Assist in resolution of PAP grievances.

The PNGO will prepare monthly reports summarising its activities, and highlighting any aspects requiring attention.

3.5 WAPDA ENVIRONMENTAL CELL

The establishment of a well-staffed Environmental Cell within WAPDA is considered essential by WAPDA for the efficient implementation of the RAP. To meet this commitment, WAPDA (Water Wing) has formed an Environmental Cell within WAPDA and staffed it with qualified persons, who are being imparted training both in the environmental assessment and resettlement processes.

The Cell is based in Lahore. Its field staff will be stationed in the Project area and will work in close coordination with the Superintending Engineer Resettlement, the Monitoring Consultants and with the PNGO.

3.6 MONITORING CONSULTANTS

The Environmental Cell established by WAPDA will not soon have all the requisite expertise to monitor resettlement and the environmental mitigation works. To assist the Environmental Cell in overall resettlement and environmental monitoring, Monitoring Consultants will be engaged by WAPDA. The Monitoring Consultants will start functioning by November 30, 1994.
The Monitoring Consultants will work with the WAPDA Environmental Cell and will assist with the monitoring of the socio-economic aspects of the Project, as well as monitoring the implementation of the Resettlement Action Plan. WAPDA will encourage the formation of a consortium of small national consulting firms to carry out this monitoring.

In association with the Environmental Cell, the Monitoring Consultants will be expected to:

- maintain a permanent presence in the Project area in order to monitor and evaluate the effects of the Project on all segments of the population and on different components of the environment;

- in conjunction with the technical divisions of WAPDA, the Project Resettlement Organisation, and the Environmental Division of the World Bank, prepare a list of indicators to monitor the resettlement and environmental effects of the Project;

- whenever necessary, undertake or commission additional studies or surveys to gain a more accurate picture of the effects of the Project;

- assist the Environmental Cell in the preparation of Project six-monthly reports on the state of the Project resettlement actions for WAPDA and the World Bank;

- monitor the land acquisition and compensation processes;

- monitor how temporary borrow areas are leased and compensated;

- monitor the safety programme to ensure that safety measures during construction are coordinated with the movements required for agriculture, herding, funeral processions, etc.

- monitor the development and occupation of the spoil banks for productive agriculture, and

- assist in organising training workshops.

3.7 EXTERNAL PANEL OF EXPERTS

The overall progress of the implementation and monitoring of the resettlement plan and associated mitigation measures will be reviewed from time to time by an External Panel of Experts, attached by the World Bank to the Project. The Panel has been associated with the Project right from the inception of Project planning and will continue during the implementation and monitoring phases of the Project Resettlement Action Plan. The Panel will consist of at least two members, one a resettlement
expert and the other an environmental expert. The Panel will have an advisory role, but their advice will carry considerable weightage with WAPDA.

The Chief Engineer Environmental Cell and the Superintending Engineer Resettlement will work in close coordination with the Panel during the implementation and monitoring stages of the Project.

3.8 TRAINING

3.8.1 Training Workshops

WAPDA recognises that any new institutional set-up requires time to work out unforeseen administrative bottlenecks, overlapping responsibilities, and potential conflicts. Consideration is being given to engaging technical assistance in strategic planning facilitation for this exercise. The Monitoring Consultants will assist the WAPDA Environmental Cell in organising training workshops.

Management Workshop

A Project workshop will be held to help personnel of the Project Resettlement Organisation to understand policy and legal issues related to resettlement, roles and responsibilities of personnel and branches, and requirements for coordination in implementing the Resettlement Action Plan.

WAPDA has planned to appoint the key staff by early November 1994 and remaining staff by the end of that month. A 2-day workshop has been scheduled at Tarbela in the third week of November 1994 for key participants in the Project Resettlement Organisation, and for other personnel and offices involved in construction, environmental and social aspects of the Project. The workshop will be chaired by the Chief Engineer & Project Director for the Project, and will include all professional personnel in the Project organisation. Personnel from WAPDA's Environmental Cell will be included, as will be key staff of the PNGO.

The topics covered by the workshop will include:

- resettlement-related requirements of the Government and of the World Bank,
- legal provisions related to land acquisition,
- provisions of the RAP,
- base-line information and MIS,
- resettlement schedule,
- administrative responsibilities,
- organisational coordination, and
- monitoring and evaluation.

Construction Start-up Workshop

The Project Resettlement Organisation will hold a Construction Start-up Workshop. The workshop will discuss problems of coordination, scheduling, safety, and make arrangements to keep open channels of communication between the PRO and Construction Managers. The purpose of the workshop will be to educate Construction Managers about the specific resettlement aspects of the Project, and to establish cooperative and productive relationships between the various components of the GBHP community from the very beginning of construction.

3.8.2 Other Training

The PRO will organise other in-house training for its personnel, as required. The Social Sciences Branch and personnel of the PNGO field teams will be given a Seminar on Perspectives on Resettlement Planning and Implementation; and another on Environmental Sociology: Approaches and Methodology. These individuals will also participate in a Seminar on the Land Acquisition Act and the keeping of land records in rural Pakistan.
CHAPTER 4
COMMUNITY PARTICIPATION

4.1 GOALS

Community participation has been an important feature of Project planning since the beginning of the Feasibility Study. The aims in involving the community included the following:

- To elicit information from the local people about the social and economic resources upon which they depend for their livelihoods and well-being, and to initiate a dialogue with community leaders and representatives about how the effects of the Project should be mitigated.

- To involve local communities in the planning and implementation of the Ghazi-Barotha Hydropower Project, as well as in broader regional development.

- To develop and keep open lines of communication between local communities, on the one hand, and WAPDA, the Project Consultants, Project NGO and Project contractors, on the other. Such lines of communication can be used to eliminate misconceptions and solve problems and potential disputes before they effect the smooth running of project implementation.

From the beginning of this Project, it has been the policy of WAPDA and the Project Consultants that more and more information about the Ghazi-Barotha Hydropower Project should be communicated to the people of the Project area. Communication through scoping sessions and briefings has been at every level of society. This has involved the village folk and their leaders, both formal and informal, the Union Council leadership, the District Councils, senior officials in the provincial governments, and the Members of the Provincial and National Assemblies representing the Project region (Table 4.1).

4.2 VILLAGE SCOPING SESSIONS

Fourteen scoping sessions were held for the people of the villages expected to be included in the Project alignment. These scoping sessions were held in the compounds of the Union Council offices, where people from three to five villages could gather. Efforts were made to attract a large number of people to the scoping sessions. Announcements were made in the mosques of the affected villages in the Union Council at least one day before the sessions. Generally, the turn-out, which ranged between 12 and 107, was good.
Using a large base map of the Project, the people were informed about the objectives of the Project, the size of its physical components, and its capacity for power generation. In particular, land valuation, compensation procedures and employment opportunities for affectees were discussed with the participants, after which extensive question-and-answer sessions were held. In addition, a four-page pamphlet about the Project in Urdu was distributed.

4.3 WOMEN'S PARTICIPATION

Parallel scoping sessions were held by Project female sociologists for the women of the affected villages. With the help of lady social workers, lady health visitors, midwives, lady councillors and lady teachers, local officials were asked to gather the women in an appropriate place, i.e. in a girls' school or a private home. Women of all social strata were invited to attend without any limitation on their numbers. The Project was described by the Project female sociologists with the aid of a large base map. Informational pamphlets in Urdu were distributed and a question-and-answer period held at each scoping session.

4.4 FINDINGS OF THE SCOPING SESSIONS

During the scoping sessions, representatives of WAPDA and the Project Consultants assured the people that the socio-environmental aspects of each project alternative had been studied and that efforts had been made to avoid disturbances to population centres, graveyards, shrines, and other cultural properties.

All the scoping sessions were held in an open atmosphere, where local people expressed their views freely. Most of the local demands have been adopted in the Resettlement Action Plan or in the Project social mitigations. These include land compensation at the market value; all possible avoidance of graveyards, shrines and other cultural properties; and a regional development plan that will include electrification of villages, provision of schools and roads, and small industrial development in the Project area.

4.5 NON-GOVERNMENTAL ORGANISATIONS

During the scoping sessions, contact was made with local Non-Governmental Organisations (NGOs) in the Project area. Most of these NGOs expressed an interest in the Project and a desire to work with WAPDA in its planning and implementation. Some NGOs, however, believed that the people of the Project area, particularly those in the Right of Way (ROW) in the Haripur District, needed somewhat more focused representation. These groups formed a Joint Action Committee on Ghazi-Barotha Hydropower Project.
The Joint Action Committee, together with informal social and business leaders of the Ghazi-Khalo area, moved to place aspects of the Project on an agenda for further research and discussion. The major concerns in the Ghazi-Khalo area related to the siting of the barrage and land valuation for the Project.

These and other aspects were also reviewed by the Sungi Development Foundation, a regional NGO headquartered in Abbottabad, and the International Union for the Conservation of Nature and Natural Resources (IUCN).

A three-day workshop organised by Sungi Development Foundation and IUCN, entitled "Networking with the NGO Community and the Media" was held at Tarbela in October 1991. During this meeting, the impacts of the Project on the communities affected were discussed with participants from the local communities.

In February 1992, representatives of WAPDA and the Project Consultants briefed IUCN in Karachi on the social and environmental aspects of the Project.

Another scoping session with local NGOs, the Sungi Development Foundation and IUCN was held at Tarbela in July 1992. As a result, the Sungi Development Foundation approached IUCN to carry out an independent environmental site comparison between the 'A' and 'C' sites for the barrage. IUCN agreed to undertake this task.

The IUCN report was issued in June 1993 and presented to WAPDA, the Project Consultants, the Sungi Development Foundation and representatives of local NGOs in a meeting at Tarbela in July 1993 (Ref. 5.1). The IUCN study supported Site 'A', as proposed by the Project Consultants, but also recommended that the technical feasibility of running the power channel in the river or along the river bank from Site A to Site C should be examined. This was examined by the Project Consultants and found to be too vulnerable to high-level flows in the Indus. It would also require major containment bund construction on both sides of the river.

The IUCN report made a number of recommendations including initiation of an integrated regional development plan, consideration of an appropriate institutional framework for monitoring and implementing complementary social development to the Project, and identification of the mechanisms for working with and strengthening local NGOs.

WAPDA has appreciated the interest of the Sungi Development Foundation and the IUCN, as well as the local NGOs. The IUCN recommendations refined and strengthened approaches already being adopted as a result of the village-level scoping sessions. These recommendations largely have been included in the Project design and, where applicable, in this Resettlement Action Plan.
4.6 PROJECT NON-GOVERNMENTAL ORGANISATION (PNGO)

WAPDA will provide funding for an autonomous Project Non-Governmental Organisation (Chapter 3). The formation of the PNGO is a key step in safeguarding the equitable management of compensatory rights and entitlements in the Project, operational aspects of other social mitigations, and the general development of the Project region. It will be staffed by individuals with demonstrated experience in village organising and grass-roots developmental methodologies. The PNGO will operate in four major activity areas of the Project that pertain to community participation:

- **People's Participation.** It will use the techniques of grass-roots village organising to enable those directly affected by the Project to represent their own interests, develop grievance procedures, and participate in Project resettlement and compensatory activities and in Project benefits.

- **Project Resettlement Operations.** It will form Project field teams with members of the WAPDA Social Science Branch to undertake resettlement activities, including the completion of Certificates of Compensation and work permits for each individual losing property or livelihood as a result of the Project, the confirmation of compensation for land and other property, the transfer of resettlers to new housing, and the organisation of resettler farmers to take over land on the spoil banks.

- **Project Compensatory Activities and Mitigations.** It will organise key compensatory activities for village landless groups and other direct affectees of the Project. These activities include vocational training, credit, and self-employment generation schemes.

- **Regional Development.** It will administer the Integrated Regional Development Plan (IRDP) to develop the Project area and focus on long-term job growth.

4.7 PROJECT CONTACT COMMITTEES

Acting through the PNGO field teams, the Project Resettlement Organisation will assist in the formation of Project Contact Committees at the village level to represent the interests of the Project-affected persons. These committees will also serve as the point of contact between the Project and the village on other issues, such as safety concerns, construction schedules, and access to fields and pasture land across construction zones. Each of these committees will have five representatives, including the Member of the Union Council representing the village. The other members will be selected by the PAP family heads and will include at least one women member.
The selection process will be a traditional one with which local people are comfortable. In order to preserve transparency, however, all meetings of the committee will be announced, will be open to attendance by any adult affected by the Project, and will be conducted in such a way that any Project-affected adult has the right to present his or her views. Separate meetings will be held for women, as local cultural norms mandate, but the decisions of these separate meetings will be communicated to the larger committee. The Project field teams will keep a record of all decisions reached by these committees.

4.8 RESETTLEMENT VILLAGES

In November 1993, April 1994 and July 1994, scoping sessions were held by WAPDA and the Project Consultants with heads of those households whose residences will have to be relocated due to the Project. These scoping sessions were held at:

- The Project Office, Tarbela Colony, for those so affected in the power channel reach between Ghazi and the NWFP border.
- Outside the mosque at Banda Feroze, for those so affected in the Banda Feroze-Ghurghushti area.
- Open ground bordering Barotha village, for those so affected in the Dher and Barotha area by the headponds and the tailrace.

Various relocation options were discussed with the affected householders. These included: planned resettlement villages, self-selected local relocation, and grouped local relocation. The preferred locations of resettlement villages were also discussed.

The results of these scoping sessions have been incorporated in the Resettlement Action Plan.

4.9 FUTURE SCOPING SESSIONS

Following approval of the RAP, the PRO of WAPDA will prepare pamphlets explaining each category of entitlement, along with such items as the Certificates of Compensation and different work permits, and will distribute them to all affectees.

The PRO will follow up with scoping sessions in the Project area with all affectees to explain the various Project provisions and any other matters the villagers wish to discuss or have explained. These sessions will include:

- details about specific entitlements;
- schedule of resettlement-related activities;
- working of Land Valuation Committee;
- license for continuing farming activities until land is required for construction;
- procedure for demarcation and allotment of land on the spoil banks;
- establishment of Tubewell User's Association, and
- grievance and appeal mechanism.

These sessions will be an opportunity to re-emphasise the Project's approach involving the communities in Project planning and design and to reiterate that the participative process will continue into and throughout the implementation period.

4.10 PUBLIC INFORMATION CENTRE

WAPDA will set up a Public Information Centre (PIC) to handle various inquiries as well as disseminate project information to the public.

The PIC will be set up at Tarbela and will be open to everyone. WAPDA will appoint a senior experienced officer of the rank of Director to head the PIC. All Project-related reports will be available at the PIC.

The PIC will hold periodic meetings with PAPs, local representatives and local NGOs on Project-related issues. Participation by women will be encouraged. The minutes of these meetings will be recorded.

REFERENCES

CHAPTER 5
SOCIO-ECONOMIC SURVEYS
CHAPTER 5
SOCIO-ECONOMIC SURVEYS

5.1 GENERAL

The purpose of this Chapter is to provide the resettlement-related baseline data collected for the Ghazi-Barotha Hydropower Project. This data was collected from socio-economic surveys conducted during the planning stage as well as from the recent focused census and sample surveys.

During the feasibility studies, a detailed social survey of 15 villages in the Project area was carried out to assess the socio-economic impact of the Ghazi-Barotha Hydropower Project on the people who live in the villages of the Project area as well as on those in nearby areas whose lives and livelihoods may be affected by the Project. This survey was planned and conducted at the village level in order to meet the Project study objectives of establishing the baseline socio-economic conditions and of evaluating the likely impacts of the Project on the area.

Two other surveys were also conducted during the feasibility studies. One was a social survey of women in the Project area, and the other was a survey of the direct affectees of the Project and focused on the households, farm lands, houses, other private and public infrastructure that will be affected by the land acquisition for the Project.

Finally, a focused census and sample surveys were initiated in June 1994 to update information on the Project affectees, to determine as precisely as possible the actual number of affectees, their socio-economic status, and the pattern of impact on various groups (owners, tenants, labourers, etc) with special attention to the impact on women.

5.2 SOCIO-ECONOMIC SURVEY DURING FEASIBILITY STUDIES

5.2.1 General

The social and economic information about the Project collected during the feasibility studies was based on available official census and social data, extensive field observation, scoping sessions and the results of village social surveys undertaken by the Environmental and Social Scientists of both the Consultants and WAPDA. Three separate social surveys were conducted in the Project area. These were:

- a social survey of fifteen villages in the Project area;
- a social survey of women in the Project area, and
- a survey of the direct affectees of the Project.
5.2.2 Social Survey of Villages of the Project Area

A detailed social survey was conducted to assess the socio-economic impact of the Ghazi-Barotha Hydropower Project on the people who live in the villages of the Project area as well as those in nearby areas whose lives and livelihoods may be affected by the Project. During the survey an effort was made to examine key concerns addressed in the guidelines of the World Bank.

The village survey work was carried out by holding scoping sessions and collecting information through a pre-designed questionnaire.

The purpose of the scoping sessions was to disseminate information about the Project to the people of the Project area and to provide them with a forum in which they could communicate their own interests and concerns. To meet these goals, 15 scoping sessions were held in 10 Union Councils touched by the Project alignment. People were informed about the Project with the help of maps and briefs. Questions and queries from the participants were addressed to create a good understanding of the Project.

The social survey was planned and conducted at the village level rather than by individual interviews. For this purpose, a questionnaire was designed to meet the objectives of the Project study, that is, to establish the baseline socio-economic conditions and to evaluate the likely impacts of the Project on the area.

Fifteen villages were randomly selected. Barotha at the power complex site was selected because of the magnitude of anticipated Project impacts. The rest of the villages were located all along the Project alignment at roughly equal intervals.

This survey provides general information regarding the sample villages about their land resources, water resources, human resources, farm power, livestock and social infrastructure.

In the data collection, special consideration was given to the participation of people from all strata of life, including artisans, field labourers and herdsmen. To achieve this, the survey team announced the programme on village Mosque loudspeakers at least one day before conducting the interviews in each village. The information collected is given below, and should represent a generally accurate picture of socio-economic conditions in the Project area.
General Information

The general information collected in the sample survey is as follows:

- No. of sample villages: 15
- No. of union councils concerned: 10
- Estimated population of the sample villages: 62,300
- No. of households of the sample villages: 11,320
- Average household size: 5.5 persons
- No. of farmers in sample villages: 9,338
- Total area of the sample villages: 18,474 ha
- Area under cultivation: 14,434 ha
- Barani land: 9,335 ha
- Irrigated land: 5,099 ha
- Cultivatable waste/waste land: 1,719 ha

Land Resources

The land use pattern is given in the following table:

<table>
<thead>
<tr>
<th>LAND USE</th>
<th>NO. OF VILLAGES</th>
<th>AREA (ha)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cultivated land</td>
<td>15</td>
<td>14,434</td>
<td>78.0</td>
</tr>
<tr>
<td>Orchards</td>
<td>9</td>
<td>55</td>
<td>0.3</td>
</tr>
<tr>
<td>Farm land pastures</td>
<td>6</td>
<td>2,034</td>
<td>11.1</td>
</tr>
<tr>
<td>Farm forests</td>
<td>4</td>
<td>232</td>
<td>1.2</td>
</tr>
<tr>
<td>Cultivatable waste</td>
<td>6</td>
<td>896</td>
<td>4.9</td>
</tr>
<tr>
<td>Waste land</td>
<td>15</td>
<td>823</td>
<td>4.5</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>18,474</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The landholding pattern in the surveyed area is shown in the following table:

<table>
<thead>
<tr>
<th>HOLDING SIZE</th>
<th>OWNERS NO.</th>
<th>OWNERS %</th>
<th>OWNER-CUM-TENANTS NO.</th>
<th>OWNER-CUM-TENANTS %</th>
<th>TENANTS NO.</th>
<th>TENANTS %</th>
<th>TOTAL NO.</th>
<th>TOTAL %</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 5 ha</td>
<td>6,227</td>
<td>66.7</td>
<td>859</td>
<td>9.2</td>
<td>1,033</td>
<td>11.1</td>
<td>8,119</td>
<td>87.0</td>
</tr>
<tr>
<td>5-10 ha</td>
<td>729</td>
<td>7.8</td>
<td>290</td>
<td>3.1</td>
<td>25</td>
<td>0.2</td>
<td>1,044</td>
<td>11.1</td>
</tr>
<tr>
<td>&gt; 10 ha</td>
<td>125</td>
<td>1.3</td>
<td>50</td>
<td>0.6</td>
<td></td>
<td></td>
<td>175</td>
<td>1.9</td>
</tr>
<tr>
<td>Total</td>
<td>7,081</td>
<td>75.8</td>
<td>1,199</td>
<td>12.9</td>
<td>1,058</td>
<td>11.3</td>
<td>9,338</td>
<td>100.0</td>
</tr>
</tbody>
</table>

As a result of inheritance over a number of generations and large family sizes, land holdings have become small in size and are often held as joint property. On the basis of total cultivated land...
area in the sample villages, the average landholding comes to about 1.5 ha. The data also shows that, on the whole, the majority of the landholders (75.8%) are the owners. Owners-cum-tenants are small landowners who take additional land on a sharecropping basis.

The land of the majority of cultivators in these villages is divided into fragments. The land holdings of almost 80% of the farmers are fragmented into more than two fragments. Only 10% of farmers have land that is consolidated.

**Human Resources**

For the purpose of this study, social (kinship/status) and occupational groupings were selected to assess the affects of the Project on social ties and economic conditions. These are the key groups within the village which determine how local resources are used.

There are about 20 social groups (lineage brotherhoods, called biraderis, or ethnic groups) in the survey area. However, the majority of the households belong to Pathan (71%) grouping, followed by Awans (12%).

The people of the Project area have strong family ties which extend out into their own endogamous lineage group. Their forebears have lived here for centuries and they have developed a strong association with their lands and villages. They are not willing to shift to other places in the process of resettlement. However, Khattar landholders, who live in the dry Sarwala tract, have indicated a willingness to migrate to another place provided the resettlement is done within the Punjab, the affected group is resettled at one locality, and they are provided with canal-irrigated land.

The economic grouping includes landowners (zamindars), owner-cum-tenants, tenants, herdsmen, service groups (kammis) and others (miscellaneous groups involved in business, farm labour, and labour serving elsewhere within the country or abroad). The largest group are landowners, comprising 63% of the total households in the surveyed area. This is followed by miscellaneous groups (14%), owner-cum-tenants (11%), tenants (9%) and kammis (3%). Herding as a sole profession involves just a fraction of the total households. However, herding as an additional activity is common in other groups.

**Farm Power**

**Tractor-Trollies.** According to the survey, there are 307 tractors and 287 trollies in the villages surveyed. They are owned by the farmers, or by artisans who have made good in the new roadside bazaars, and are mostly used for cultivation, haulage and transportation. The frequency of distribution of tractor-trollies varies from village to village.

5.4
Animal Power. Animal power is employed for cultivation, haulage and transportation. There are 233 yokes and 60 carts in the survey villages. The majority of the yokes exist in Ghurghushti and Barotha (with 100 yokes each), followed by Barazai (20). The maximum number of carts have been found in Saidan village (35).

The area of land cultivated by yokes is, however, nominal (1%). About 99% of the farmlands are cultivated by tractors. Even the small farmers hire tractors from other farmers within the village or from neighbouring villages.

Livestock

The livestock of the Project area comprises cows, buffaloes, sheep, goats, camels and donkeys. The survey data has revealed that cattle are mainly maintained for domestic and commercial purposes, ie for milk and meat. Oxen are also used for farming activities, haulage and transport (carts). Donkeys are used as beasts of burden. Buffaloes and goats are kept for milk and meat for the household and for sale at livestock markets.

Survey data revealed that about 60% of the households in the villages surveyed keep their animals in their fields and feed them on green fodder, hay and stubble. There is only one village where fodder is available in the local market. The remaining households (40%) mostly depend on herding. There is no reserved grazing area or pasture land in the Project area. Herding is normally carried out on barren land, fallow land, and along the nullahs and roadsides.

The markets for the sale of livestock are located in Ghazi-Khalo, Hazro and Gondal. None of the market places will be obstructed by the Project.

Social Infrastructure

Education. There are 33 schools (21 for boys and 12 for girls) in the villages surveyed. Almost all the villages have primary schools for the boys, while 10 villages have such facilities for girls. Similarly, middle and high schools are available in 6 and 3 villages respectively for boys and 2 villages for girls.

The total number of students in the villages surveyed is 6,942 (4,745 boys and 2,197 girls). Primary, middle, and high school education are available within the village or in a nearby village. But for college education, students have to go to Ghazi, Hazro or Attock. None of these locations is disrupted by the Project.

Health Facilities. There are only 3 Basic Health Units in the 15 villages surveyed. Qualified doctors are available in 4 survey villages. Eight villages have dispensers. Seriously ill patients normally have to visit Attock, Ghazi, Tarbela Colony Hospital and Hazro for treatment.
Market Place. Shops are available in 14 out of the 15 villages surveyed. Here items of daily use are readily available. For other household goods and farming implements, the people go to Ghazi, Hazro and Attock.

Local Organisations

Much of the organised, cooperative effort at the village level occurs in the agricultural sector, where groups join to invest in activities that are otherwise beyond their individual resources. These include land levelling, building bunds, diverting nullahs, and, most frequently, investing in pumping schemes for groundwater. In the survey, it was found that 89% of the small pumps were jointly-owned and 42% of the tubewells were group-owned.

Political parties tend not to be organised below the Union Council level. Most villages have one or more associations to administer their mosques. This means upkeep, providing for an imam and, when necessary, upgrading the washing facilities by putting in an overhead tank and electric pump. Mosque associations do use whatever extra resources they have to assist widows and orphans.

Several youth associations are present in the Chhachh and Ghazi areas. These youth associations provide scholarships, books and tuition to poor students, and assist at funerals and weddings.

There are no formal women's organisations in the region. Women do, however, cooperate informally in the settlement of disputes among women and in providing small loans to help each other purchase materials to make handicrafts.

5.2.3 Social Survey of Women in the Project Area

General

This study was undertaken with two specific purposes:

- to conduct village-level scoping sessions in which women were informed about the characteristics and benefits of the Ghazi-Barotha Hydropower Project, and their reactions were recorded, and

- to assess the impact of the Project on the social life of the female population. For this purpose, the existing lifestyle of women and children and their participation in different social and economic activities were studied.

Information about the existing living conditions of women and children will serve as a baseline to monitor the impact of the Project on these groups. It will also help to delineate channels for the provision of services to women and children in rural
communities affected by the Project. The survey data will be used to aid in the planning and provision of development programmes for women and the resettlement of Project affectees.

To fulfill the objectives of the survey, information was collected about:

- existing educational facilities for females;
- existing health facilities;
- female participation in different activities and occupations, and
- living conditions and domestic facilities.

Fourteen affected villages in the Project area were selected randomly for study. Females of all social strata were invited to attend the scoping sessions. They were informed prior to the visit of the survey team to their area.

A large-scale base map, indicating the proposed alignment of the Project structures and the location of villages, was used to describe the Project to the women. Informational pamphlets in Urdu were also distributed and a question-answer session was held.

For the collection of data, a specific interviewing schedule was planned. The study was based on group interviews. General information on the survey is as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of surveyed villages</td>
<td>14</td>
</tr>
<tr>
<td>No. of respondents</td>
<td>370</td>
</tr>
<tr>
<td>Population of 14 villages</td>
<td>57,272</td>
</tr>
<tr>
<td>Female population</td>
<td>29,002</td>
</tr>
<tr>
<td>Females above 14 years of age</td>
<td>15,951</td>
</tr>
<tr>
<td>Females 5-14 years of age</td>
<td>8,699</td>
</tr>
<tr>
<td>No. of households</td>
<td>10,940</td>
</tr>
<tr>
<td>Agriculturist households</td>
<td>8,467</td>
</tr>
</tbody>
</table>

Educational Status of the Respondents

A majority of women in the Project area are illiterate (66%). About 14% have been educated up to primary level; 20% were matric or above. Only a single female was found in the Project area who has a Masters degree.

The total number of females of school-going age (5-14 years) in the villages surveyed is 8,699, out of which 25% were going to schools.
Vocational/Industrial Centres

In the sample area there are only two vocational centres. One is a private institution established in Isa, where young girls (10 to 16 years old) learn cutting, stitching, knitting and embroidery. Another centre is situated in Mian Dheri, where it is run by the Social Welfare Department. Both these schools are quite inadequate for the training of women in the area.

Health Facilities

Health facilities in the Project area are inadequate to meet the women's requirements. There are only 3 Basic Health Units (BHUs) in the 14 villages surveyed.

The following table shows the staff availability in 3 BHUs of the survey villages:

<table>
<thead>
<tr>
<th>Practitioner</th>
<th>Local</th>
<th>Outsider</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doctor (male)</td>
<td>-</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Nurse (female)</td>
<td>-</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Dispenser</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Lady Health Visitor</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Dai (midwife)</td>
<td>8</td>
<td>-</td>
<td>8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>11</td>
<td>11</td>
<td>22</td>
</tr>
</tbody>
</table>

No child immunisation centres were found in the area visited. Mobile teams, however, visit the villages for this purpose. But these visits are not made at regular intervals and hence the facilities remain insufficient as compared to the requirements.

Prevalence of Diseases in Female and Children. A majority of females complained of various diseases, including maternity problems, depression, headaches, skin and eye infections, eye weakness, kidney pain, ulcers, gastric problems, diabetes, heart problems, blood pressure and asthma. Diarrhoea is one of the most often-quoted ailments among rural children. Gastro-enteritis, vomiting, coughs, malaria, measles, pneumonia and anemia are also common ailments among children.

Sanitation and Hygienic Conditions. Of the houses surveyed, 61% do not have any arrangement to drain wastewater out of the house. The remaining 39% drain the water out of the house, irrespective of what happens to it out in the street. Of the 14 villages visited, 79% had drains in the street, but these were generally blocked and overflowing. According to this survey, villagers (both males and females) usually go out into the fields for toilet purposes. In those households where the purdah system is strictly enforced, however, some provision is made for a toilet inside the house.
Female Occupations

In most of the rural areas, women work both in the domestic domain and out in the fields, where they help directly with the household income. They contribute in both the production and processing of crops side by side with men.

Other activities (i.e., the care of poultry, livestock raising, plastering, and whitewashing of homes) are performed by females, in addition to fulfilling their traditionally assigned roles (child-rearing, cleaning, cooking, washing, milking, and churning). They also renovate their mud houses about twice a year.

Out of the total female population above 14 years, 39% are doing handicrafts. In all the villages, women have a keen interest in embroidery, stitching, and sewing.

5.2.4 Survey of Direct Affectees

The survey of the direct affectees of the Project focused on the households, farm lands, houses, other private and public infrastructure that will be affected by the land acquisition for the Project. The survey was conducted by the Assessment Division of the Ghazi-Barotha Hydropower Project, WAPDA. Data for landholdings was based on the official records (jamabandi) maintained by the village patwaris. The village land records have not been recently updated and some of the information is out of date. This information has been updated as a result of the recent focused census and sample surveys.

5.3 FOCUSED CENSUS AND SAMPLE SURVEYS

5.3.1 Purpose of Census and Surveys

A focused census was initiated in June 1994 to update information on the Project affectees in order to determine as precisely as possible the actual affectees. In addition, sample surveys were conducted concurrently (on 30% samples) to collect information on their socio-economic status, and the pattern of impact on various groups (owners, tenants, labourers, etc.) with special attention to the impact on women.

The scope of the focused census and sample surveys was:

- to determine the nature and extent of the adverse impact of the Project on the standard of living of the affectees;

- to update the ownership records of the land to be acquired so that the affectees losing land are identified;

5.9
- to obtain information on the sources and levels of income of these affectees;

- to identify affectees belonging to other affected groups, such as tenant farmers, farm labour, etc and to assess the impact of the Project on them so that suitable entitlements could be devised for them; and

- to obtain further information on the impact of the Project on women.

The methodology adopted for the census and surveys was as follows:

- The information was with the help of a predesigned questionnaire with three sets of questions, one set related to a focused census of the affectees, and the others relating to the income of the affectees and the impact on women.

- Given the low literacy level of the affectees, the questionnaire was used as an interview schedule.

- The questions were formulated in English and the questionnaire was printed as such. However, the interviewing was conducted in the language understandable by the respondents.

- The interviews were conducted by a group of fifty interviewers (including females) with degrees in sociology, rural sociology and statistics. They were supervised by six supervisors. The interviewers were given specific training on the requirements and objectives of the census and surveys. Mock interviews were held.

- Data validation was carried out by spot checking and repeat interviews by the supervisors.

The updated information obtained from the census and surveys has been presented in Chapter 2.
CHAPTER 6

POLICY AND LEGAL FRAMEWORK
CHAPTER 6
POLICY AND LEGAL FRAMEWORK

6.1 INTRODUCTION

The policy objectives under which this Resettlement Action Plan has been developed have been stated in Chapter 2. In summary, the main objectives are to minimise involuntary resettlement, to ensure that persons to be displaced have their former living standards and income earning capacity improved, or at least restored, and to provide adequate support to such people during the transition period.

One of the main impacts of the Project will be that arising from the acquisition of land. The Project is committed to providing entitlements to persons who lose their land or other property as well as to those others whose livelihood is directly affected by the acquisition of land. The provisions of Pakistan's laws that apply to such situations will be followed, supplemented by entitlements for the landless affected people.

In order to determine the legal aspects of the entitlements being provided for Project affectees, a legal task force was established. The recommendations of the task force have been incorporated in the provisions contained in this Plan.

This Chapter reviews the legal, administrative and regulatory framework governing acquisition of property for development purposes in Pakistan. It discusses the relevant legislation and regulations and reviews legal and administrative procedures followed, with particular reference to valuation methodology, compensation entitlements and timing of payment provisions.

This Chapter also describes the institutional arrangements for land acquisition, potential problems that can be encountered with valuation and compensation, and the measures proposed to avoid these problems.

6.2 LAND ACQUISITION ACT

The present general law for acquisition of land for public purposes such as urban development, new roads, railway lines and canals etc, was introduced in the year 1894 as the Land Acquisition Act, 1894. This Act remains the primary law governing land acquisition in Pakistan today and is the principal general statute laying down the framework for the exercise of the right of eminent domain of the State. The land acquired under the Act vests in the Province and it is only thereafter that the Province may transfer it to someone else.

In addition to the provisions of the Act, regulations setting out the procedure for land acquisition have been provided in the
'Punjab Land Acquisition Rules, 1983' published in the Gazette of the Punjab Extraordinary, dated February 22, 1983. These rules are applicable in the Punjab. There is another body of general regulations called the Standing Order No. 28, which is followed by the NWFP as well as the Punjab. For the acquisition of land, the above-mentioned Act, rules and regulations are followed whether the acquisition be for WAPDA or any other agency.

The Land Acquisition Act lays down definite procedures for acquiring private land for projects and payment of compensation. The rights of people whose land is to be acquired are fully safeguarded. Even for entering private land or carrying out surveys and investigations, specified formalities have to be observed and notifications have to be issued. Damage to the crops during survey and investigations has to be compensated. The affected persons, if not satisfied, can go to the Court of Law to contest the compensation award of the Land Acquisition Collector.

A review of the important features of the 1894 Act is given below.

In accordance with the Act, the legal process is initiated by an application from the Government agency that requires the land (Requiring Body). As land is a provincial subject according to the Constitution, the next step is for the Provincial Government to deem it necessary to acquire land and it then takes the following actions.

Under Section 4, it causes the publication of a preliminary notification notifying that the land is needed for a public purpose. This permits entry, survey and investigation of the land in question by an authorised Government servant. He shall pay compensation for any damage caused by such entry.

The purpose of a notification under Section 4 is to enable the authorities to carry out a preliminary investigation for deciding whether the land intended to be acquired is suitable for the purpose for which it is needed. The process of acquisition must start with a notification under Section 4. It is a condition precedent to the exercise of any further powers under the Act.

Under Section 5, a formal notification is issued that the particular land is needed for a public purpose. This notification is published in the official Gazette and the Collector is required to cause public notice to be given of the substance of the notification. Issuance of Section 5 has to take place not later than one year after notification of Section 4.

Any person interested in any land which has been notified under Section 5 may, within thirty days after the issue of the notification, object to the acquisition of the land under Section 5-A. The Collector shall hear the objection, make necessary enquiries and submit a report within 90 days to the appropriate Government authority. This authority must announce his decision which shall be final, within 90 days, otherwise the
objection shall be deemed to have been admitted and the acquisition proceedings will come to an end.

When the Provincial Government is satisfied, after considering the report, if any, made under Section 5-A, that any particular land is required for a public purpose, a declaration to that effect shall be made by an authorised officer of the Provincial Government under Section 6. This should follow within six months of the publication of the Section 5 notification.

After the declaration under Section 6, the Commissioner shall "direct the Collector to take order for the acquisition of the land" under Section 7.

The Collector has then (Section 8) to cause the land to be marked out, measured and planned (if this was not done after Section 4). Under Section 9, the Collector gives notice to all interested people that the Government intends to take possession of the land and if they have any claims for compensation that they be made to him at an appointed time.

Section 10 delegates power to the Collector to record statements of persons possessing any interest in the land or any part thereof as co-proprietor, sub-proprietor, mortgagee, tenant or otherwise.

The most important section of the Act is Section 11; it enables the Collector to make enquiry into "measurements, value and claim and issue the final award". Included in the award is the land's true area, his view of what compensation is warranted, and the apportionment of that compensation to all interested people.

Though this section is the one that contains the final award, there are two other sections (Section 23 and Section 24) which appear as later sections in the Act but which chronologically actually take place prior to Section 11. This is because these two sections pertain to compensation and the criteria to be followed (Section 23) or not to be followed (Section 24) in arriving at appropriate compensation.

Under Section 23 are included such items as the market value of the land at the time of notification of Section 6, and various damages that may have been sustained at the time possession was taken.

Matters to be neglected in awarding compensation (Section 24) include such items as the degree of urgency which led to the acquisition, any disinclination of the person interested in the land to part with it, any expected increase in value to the land from its future use, etc.

When the Collector has made an award under Section 11, he will then take possession under Section 16 and the land shall thereupon vest absolutely in the Government, free from all encumbrances.

6.3
Another section of note is Section 18 which pertains to persons still dissatisfied with the award who may request the Collector to refer the case to the court for determination and decision. This does not affect the taking possession of the land.

In cases of emergency, where the Board of Revenue considers it expedient to take possession of any land at any time before an award under Section 11 has been made, it shall notify this fact in writing to the Collector intimating in addition the date by which the land is required by it. Under Section 17, the Collector can, after causing a notice to this effect to be served on the person or persons interested in the land, take possession of the land subject to the liability to pay any amount which may be incurred on account of acquisition.

Although Section 17 has been often used for land acquisition for development projects, it will not be used for land acquisition for the Ghazi-Barotha Project except for about 150 ha required for the resettlement villages, power complex colony and the access road for the power complex, due to time constraints.

6.3 LEGAL AND ADMINISTRATIVE PROCEDURES

Land acquisition requires interaction between the Requiring Body (RB), which is normally a government agency responsible for national infrastructure development, such as WAPDA, and the Acquiring Body (AB), which is normally the Provincial Revenue Board which delegates some of its authority to the Deputy Commissioner at the District level or the Commissioner at the Divisional level.

The division of responsibility between the Requiring Body and the Acquiring Body is in broad terms that the Requiring Body provides the technical input and the Acquiring Body the legal input in the land acquisition process. It is the Requiring Body which must ensure that the Project, for which the acquisition of land is required, is approved by the authorities and that funds are available. The Requiring Body must also justify the need for land and other property on the basis of field surveys including detailed engineering design and prepare all necessary documents required for decision making.

The legal aspects of the land acquisition process begin with the Requiring Body submitting an application to the Collector of the District with a request to acquire land under the Act, giving full justification of the public purpose involved and the minimum area required by it. The application contains the following items of information:

- a statement including such information as the amount of land required, a timetable for acquisition, and the purpose for which the land is to be acquired;
After examining the feasibility of the application, the Acquiring Body processes the land acquisition cases including determination of the level of compensation and payment to the concerned people. When the land acquisition process is completed, the land is handed over to the Requiring Body.

6.4 PERSONS ENTITLED TO COMPENSATION

The Act provides (Section 11) that the award shall state the compensation for "persons known or believed to be interested in the land". Similarly, Section 31 of the Act states that on making an award under Section 11, the Collector shall tender payment of the compensation to "persons interested" entitled thereto according to the award.

In the Act, the persons interested includes all persons claiming an interest in compensation to be made on account of acquisition of land.

The overall position is clarified in Para 62 of the Standing Orders 28 which states:

"It should be noticed, however, that under the present Act no person can claim compensation unless some land has been taken in which he claims an interest, or over which he has an easement. He cannot claim compensation on general grounds that his land is injuriously affected by the acquisition if no part of it is taken under the Act".

The Act thus provides for payment of compensation only to affectees who have a legal interest in the land. Nevertheless, in order to compensate other affectees such as informal tenants and farm labourers, entitlements have been provided for them as well.

A focussed survey has been carried out to identify the Entitled Persons, as described in Chapter 5.
6.5 VALUATION OF LAND COMPENSATION

Under Section 23, the matters to be considered in determining compensation are as follows:

i) Market value of the land.

ii) Damage sustained by the person interested by taking of any standing crops or trees.

iii) Damage sustained by the person at the time of the Collector's taking possession of the land.

iv) Damage sustained by the person at the time of acquisition of land injuriously affecting his other property, movable or immovable.

v) If compelled to change his residence or place of business, the reasonable expense incurred for such change.

vi) Damage resulting from diminution of profits of land from declaration to actual taking possession by the Collector.

Furthermore, an additional sum of fifteen percent of the market value of the land is to be paid in consideration of the compulsory nature of the acquisition.

Para 61 of the Standing Order 28 provides guidelines for determination of the market value, including consulting "respectable people who are disinterested".

These provisions have been considered in the valuation methodology adopted for the Project.

6.6 LAND FOR LAND COMPENSATION

Under the Act, the person whose land is being acquired cannot be compelled against his wishes to accept compensation in any form other than cash. However, Section 31 of the Act provides that the Collector can, instead of awarding cash compensation in respect of any land, make any arrangement with a person having an interest in such land, including the grant of other lands in exchange. Thus, a formal consensual agreement will be entered into with those PAPs losing land who opt to pay part of their cash compensation for land on the spoil banks.

6.7 TIME FRAME FOR PAYMENT OF COMPENSATION

The Land Acquisition Act provides that, when the Collector has made an award under Section 11, the Collector shall, before taking possession of the land, tender payment of the full amount.
of compensation awarded by him to the persons entitled thereto under the award. Thus the compensation will be paid to the affectees prior to possession of the land being taken by WAPDA.

If the persons entitled to compensation under the award shall not consent to receive it, or if there be any dispute as to the title to receive the compensation or as to the apportionment, the Collector shall deposit the amount of compensation in the Court to which a reference under Section 18 would be submitted.

Where Section 17 is used, payment will be made to the affectees within 3 months of taking possession.

6.8 INSTITUTIONAL ARRANGEMENTS

6.8.1 Land Acquisition Collectors

In cases of land acquisition for public purposes, Land Acquisition Collectors (LAC), who are the representatives of the respective District Collectors, are normally appointed. The Collector is usually the Deputy Commissioner of a District. It may also mean any other officer specially appointed by the Provincial Government to perform the function of a Collector under the Land Acquisition Act. The Land Acquisition Act is centered around the Collector. Since the Project involves two provinces, the services of two Land Acquisition Collectors will be required. The Land Acquisition Collectors will be taken on deputation from the respective provinces.

6.8.2 WAPDA Staff

After the land required for the Project has been marked out in the field, WAPDA will prepare an inventory of built-up properties and assess their cost according to engineering practices, on a replacement cost basis. The revenue staff of WAPDA attached to the Land Acquisition Collectors will carry out field measurements of the land and prepare statements of ownership on the basis of the records maintained in the revenue section of the District Collector, which will have been updated specifically for the Project area.

They will prepare another statement showing:

- the right of possession of each person for the land to be acquired for the Project;

- the proportion of the landholding being purchased by the Project;

- the number and household heads of legal tenants, together with the relevant details of the tenancy agreement and a list of all development improvements made upon the land by the tenant; and
the number and household heads of any resident field labourers who have worked on this land during the past one year.

6.9 POTENTIAL PROBLEMS WITH VALUATION AND COMPENSATION

No single issue is more critical to the social acceptability of the Project than that of how the land acquired for the Project will be valued and the owners compensated. The landowners who have land in the Project alignment are extremely concerned about receiving fair and prompt compensation. There is a broadly held view in the region that government authorities have not adequately addressed compensation and resettlement issues in the planning and construction of major national projects.

In calculating compensation, land acquisition officials in the district have to take into account the available records of transfer of property. The common practice of under reporting the value of land in transfer deeds (in order to avoid taxes) results in too low a level of compensation. There are also a number of cases of the other extreme where fake transfers are done at an artificially high level, in anticipation of land being acquired and in order to boost the compensation level.

Outdated land records which do not register inherited land and property in the name of the present owner makes the process of identifying recipients for compensation a very time consuming process.

Households having clear title to land are eligible for getting the full package of compensation on land, houses and other structures, on crops and trees in the fields, and on agricultural infrastructure. There are other categories of people who suffer less directly, perhaps, but nonetheless substantially from land acquisition but who are yet not entitled to any compensation or resettlement benefits under the law. Tenant farmers and labourers fall into these categories.

The principles of resettlement have not yet become a part of the established body of law and regulations in Pakistan. In the absence of any specific legislative guidelines, resettlement is left to the understanding and judgment of incumbent authorities. Nonetheless, this course will eventually yield a body of experience, of which legal precedents and judgments are a part, which could then provide a basis for formulating future legislation on resettlement.

6.10 MEASURES TO AVOID POTENTIAL PROBLEMS

For the Ghazi-Barotha Hydropower Project, the entitlements of PAPs and the implementation strategy have been developed taking the above aspects into consideration. Chapters 2 and 8 have
outlined the measures being adopted to ensure fair valuation and compensation, and to provide entitlements to the landless.

Two other aspects of importance are those related to transparency of the compensation process and the measures adopted to provide support to affectees during the transition period. These are discussed in the following sections.

6.11 TRANSPARENCY OF COMPENSATION PROCESS

A number of measures are being adopted to ensure transparency of the compensation process. These include:

- Involvement of the PNGO in all aspects related to valuation and compensation.
- Representation of affectees on the Land Valuation Committees.
- Issuance of Certificates of Compensation to each affectee and the public availability of these Certificates.
- Payment of compensation directly into bank accounts of the affectees.

These measures will greatly help in minimising the possibility of affectees not receiving full compensation.

6.12 SUPPORT DURING TRANSITION PERIOD

One of the objectives of the RAP is to provide support to the Entitled Persons (EPs) during the transition period. In this context, the following measures are being adopted:

- Losers of cultivable land will be entitled to cash compensation and the purchase of irrigated land on the spoil banks. The cash savings gained from a lower purchase price for the land on the spoil banks and the interest gained from the amount fixed in the joint account for repurchase of land on the spoil banks, supplemented by compensation from other losses (land improvements), will enable these affectees to support their households in the transition period between the loss of their land and their gaining spoil banks land. These resources will also allow them to invest in the development of their new land and compensate their income loss for the period till the land comes to full production.
- In order to minimise the period during which affectees will be deprived of agricultural income, they will be permitted to farm the land, even after WAPDA has taken
possession, until the land is required for construction. Thus the maximum period for which land will not be under cultivation will be less than two years.

Work opportunities will be provided to EPs under the Project consisting of priority in employment with the Contractors and WAPDA through the issuance of work permits. Holders of green work permits will be given priority over those holding blue work permits, who in turn will have priority over non-permit holders. Holders of green work permits will be paid Rs. 500 per month for a period of up to one year or until they find work, whichever is earlier.

Priority access will be available to EPs to Project credit and training opportunities.

These measures will ensure that the standard of living of the affectees is not adversely affected during the transition period.
CHAPTER 7

ALTERNATIVE SITES AND RESETTLEMENT PROPOSALS
CHAPTER 7

ALTERNATIVE SITES AND RESETTLEMENT PROPOSALS

7.1 INTRODUCTION

Careful attention was given during the feasibility and design studies of the Project to the social effects and resettlement implications of various siting options for the barrage, power channel and power complex. These alternatives were discussed during the participatory scoping sessions with local people in the Project area.

7.2 ALTERNATIVE SITING OF THE PROJECT COMPONENTS: SOCIAL AND RESETTLEMENT IMPLICATIONS

7.2.1 Alternative Sites for the Barrage

Five alternative sites were studied for the barrage (A to E, Drawing 7.1). Site B was ruled unacceptable, as it would have required the complete relocation of Ghazi and the resettlement of more than 7,000 inhabitants. Similarly, Site D would have meant the relocation of Jaloo village and its shrine. Embankments at all the sites, with the exception of A, would have cut inhabited areas on the left bank off from direct access to the river bank and would have resulted in the pooling of wastewater near the villages. Site C would have had a similar effect on Galla village on the right bank. From both engineering and social perspectives, Site A was regarded as the best site, and was selected. This choice was confirmed by an independent study by the International Union for the Conservation of Nature and Natural Resources (IUCN).

7.2.2 Alternative Sites for the Power Channel

Several alignments of the power channel were considered. The major resettlement concerns in fixing the alignment were, first, to avoid villages; second, to avoid cultural properties; and third, to minimise damage to rural production systems. Alternatives were also considered to arrive at an acceptable alignment through the Kamra Complex, the high ground near Rumian and the approach to the power complex. All of these considerations have influenced the final alignment of the power channel (Drawing 7.2).

The original alignment, which was based on a balance between cut and fill, would have required extensive relocations in 16 villages. It would also have passed through more fertile and irrigated land. This was considered unacceptable from resettlement considerations. The adopted alignment avoids all villages by shifting the power channel to higher ground away from the river. This option significantly increases the requirement
for excavation and therefore the overall cost of the Project, but decreases its negative social (and environmental) impact.

Before the channel reaches the Grand Trunk Road, it makes several turns to avoid graveyards. It has not been possible to avoid every house or grave, but these effects have been minimised as far as possible in the Project.

### 7.2.3 Alternative Sites for the Power Complex

Five sites (Dakhner, Jaba, Dher, Barotha and Gariah) were examined for the power complex (Drawing 7.3). The northernmost site, at Dakhner, was dropped because of geotechnical deficiencies, and the southernmost, at Gariah, because of topographic problems. At Jaba there would be considerable excavation to avoid the village and graveyard. At Dher, a shorter tailrace channel would be offset by an extension of the power channel along a relatively narrow ridge. Otherwise, the three remaining sites were essentially equal from technical, social and environmental considerations. The most downstream site, Barotha, was selected as it provided the most favourable topography and the maximum head for generation.

Two tailrace alignments were considered, north and south of the village. The latter has been selected because it develops an additional fall in the Indus river. The existing small irrigation channels affected by the tailrace will be replaced.

### 7.3 ALTERNATIVE RESSETLEMENT PROPOSALS

#### 7.3.1 Introduction

Several resettlement options were analysed during Project design. The preference was, of course, to provide land in return for the land acquired by the Project. The majority of landowners in the Project area have clearly indicated a preference for this option. However, as discussed in Chapter 6, under the Land Acquisition Act, the person whose land is being acquired cannot be compelled against his wishes to accept compensation in any form other than cash. The fact that a significant proportion of the landholdings being acquired are too small to provide subsistence incomes and that many landowners do other work and no longer depend on the land for most of their incomes, it seems likely that some of the landowners may opt for the cash-for-land option.

For the land-for-land option, there is no public land in the region available for resettlement. Thus either out-of-area resettlement had to be adopted or an innovative approach developed to provide land within the Project area.
7.3.2 Out-of-Area Resettlement

For the purposes of this Project, out-of-area resettlement would mean relocation to a new area at a considerable distance from the Project area. One possibility would have been resettlement to the Thal region, some 300 km to the south in Western Punjab, where desert land is still coming under irrigation. Although all land under the old Thal Development Authority scheme has been allotted, a new scheme has been proposed and currently is in the feasibility study stage. This is the Greater Thal Canal Project, under which a barrage across the Chashma-Jhelum Canal would irrigate large areas in Jhang, Khushab, Bhakkar, and Layyah Districts. Should it prove feasible and gain funding, this project would take a projected seven years to begin operation, and more years before all the minor canals were constructed.

Given the stated unwillingness of most of the people to move away from their villages, the extraordinary social disruption inevitably caused by such distant relocations, and the uncertainty of actual construction of the Greater Thal Canal Project, the out-of-area resettlement option was considered inappropriate for this Project. Only in Barotha were some farmers willing to move such distances, provided they received irrigated farm land. The numbers of those willing to move, however, were judged too small to restore a functioning community elsewhere.

7.3.3 Developing the Spoil Banks for Cultivation

As a result of moving the power channel alignment into higher ground in order to avoid villages and major graveyards, the increased excavation required for the channel results in significant quantities of surplus material to be deposited in spoil banks. The possibility of developing these spoil banks for cultivation and resettlement has been analysed, and it has been concluded that this is a feasible alternative, from both the engineering and socio-economic points of view. With regard to resettlement, this option provides a local solution and obviates the need for out-of-area resettlement, with all the latter's attendant concerns about host populations. It has been adopted as a key part of the Resettlement Action Plan and is discussed in detail below.

The construction of the power channel will require the acquisition of about 2,507 ha of land from private landowners, with another 133 ha being state-owned land. Of this, only 1,000 ha will be retained permanently for the excavated prism of the power channel, a 10 m wide road and 25 m wide green belt on each side of the power channel. The remaining land (1,640 ha) will be used for spoil banks along both sides of the power channel where the surplus material will be spread, graded, covered with topsoil and returned to agriculture (Drawings 7.4 to 7.6).
It is anticipated that the contractor will commence excavation at the downstream end and proceed upstream. The contractor may opt to start work in two reaches. Nevertheless, the excavation will be carried out progressively over the construction period. As each reach is excavated, the spoil banks will be created along that reach.

Proper procedures will be used for dumping, spreading and grading the spoil. A schedule has been developed to dress the spoil banks with topsoil efficiently and with minimum soil degradation. In this schedule, the typical spoil bank is constructed by dumping and compacting excavated material from the adjacent reach of the power channel. Then the topsoil from the next reach of the power channel and/or from the next spoil bank will be spread over the already constructed bank. This will proceed as a continuous operation in parallel with channel construction, thus minimising damage to the topsoil by prolonged storage.

The dimensions of the spoil banks will vary according to the topography and present land use of the area concerned. The width at right angles to the power channel will vary up to about 800 m, while the height of the spoil banks will be between 3.5 and 10 m, depending on the level of the contiguous terrain. In those areas where the spoil banks are above the level of the contiguous land, as they will be on the right bank, access ramps will be provided to enable tractors and animals to reach the top of the spoil banks.

The developed spoil banks will be able to accommodate the number of landowners losing cultivable land to the Project, with landowners receiving plots about half the size of their previous barani (rain-fed) holdings and the same size as their previous irrigated holdings. The Project will provide irrigation water for the land on the spoil banks. About 150 tubewells of a capacity of 7 l/s (0.25 cusecs) will be provided at appropriate locations along the spoil banks. These have been calculated to provide a water allowance of 28 l/s for 80 to 100 ha with a 50% utilisation factor for the tubewells.

The demarcation and allotment of land on the spoil banks, the siting of tubewells, and the work of organising the Tubewell User's Associations (TUAs) will be carried out as described in Chapter 2.

A study to determine the productivity of the irrigated land on the spoil banks has been carried out (Ref. 7.1). This study was based on a survey of existing cropping patterns of irrigated and rain-fed (barani) land in the Project area, and on an investigation of the soil types along the power channel route. The principal conclusion is that farmers should have no difficulty in growing many more crops, including cash crops, on the irrigated spoil banks than are grown at present on the barani land, and that the return per hectare can be expected to increase by a factor of nearly 4. The irrigated spoil banks will require an estimated four years to reach full production. This study
confirms the views expressed by local farmers that replacing an area of barani land with half the area of irrigated land will be beneficial to the farmers.

WAPDA will implement a pilot programme for development of spoil banks for agriculture. Pilot farms will be established for this purpose on the 25 m wide strip retained by WAPDA on the spoil banks adjacent to the power channel. The results from this programme will be provided to the farmers resettled on the spoil banks. In addition, agricultural extension services will be provided to the farmers. The productivities achieved on the spoil banks will be periodically evaluated.

REFERENCES

CHAPTER 8

VALUATION OF LOST ASSETS
CHAPTER 8

VALUATION OF LOST ASSETS

8.1 GENERAL

The different types of assets lost to the Project have been identified in Chapter 2, which also describes the entitlements of different categories of Project Affected Persons (PAPs). This Chapter describes the methodology that will be adopted for valuation of these assets.

8.2 VALUATION OF LAND

The Land Acquisition Act provides primarily for cash compensation for acquired land. Compensation of land with land is however permitted if acceptable to the owner of the land being acquired. Land for land compensation has been adopted for other large hydropower projects in Pakistan.

Scoping sessions with villagers determined that PAPs favour land for land compensation. Therefore, the compensation of land for land is seen as a positive, acceptable and legal compensation mechanism, and the Project will offer both cash and land compensation to those losing either irrigated or barani land.

From the legal standpoint, determining proper compensation begins with determining the market value for land. In defining the market value of land, the courts have based it on:

- The opinion of the valuators or experts.
- The price paid within a reasonable time in bonafide transactions of lands in the neighbourhood and possessing similar advantages.
- By capitalising the net annual income from the land.

The Project proposes to achieve fair and timely compensation through the establishment of Land Valuation Committees for each village which will be charged with determining fair prices for land in that village and recommending them to the Land Acquisition Collector for adoption in the award (Section 11).

The Land Valuation Committee (LVC) will consist of the following five members:

- the Assistant Commissioner on the Revenue side from the respective subdivision who will serve as Chairman of the LVC,
- one representative from WAPDA (Grade 19 level),
the ranking member from the PNGO, and
- two representatives of affectees from the concerned village.

These two representatives will be nominated by the affectees of the concerned village in the presence of the remaining members of the LVC. The LAC of the respective province may also join the committee but only as an observing member with no voting rights. If the committee wishes to add other non-voting members, it will be free to do so.

It is to be noted that this committee will be an advisory committee. However, the LAC, who has the authority to fix the market value, will in most instances accept the recommendations of the LVC and thus, in effect, provide legal sanction to the committee.

In order to determine the realistic market value of the land, the committee will consider the following:

- One year averages of land sales in the selected mouza for the year period immediately prior to the date of issuance of Section 6.
- Location of the land, ie proximity to settlements, to roads, etc.
- Type of land usage, ie residential, agricultural (irrigated or barani), orchards or other.
- Agricultural productivity, as expressed in terms of units of productivity, based on updated Revenue Records.
- Any other factor considered pertinent.

The basis for determining the type of a particular piece of land will be a fresh field assessment, aimed at updating the Revenue Records for the Project area. The existing Revenue Records are out of date and do not reflect most of the recent improvements made in irrigation and cropping, primarily because area farmers have been reluctant to record their improvements in order to avoid higher revenue assessments.

The weightage to be given to each of these aspects will be decided by the committee for each mouza.

The committee will determine fair market values on the basis of the above and will recommend them to the LAC for a decision.

In accordance with the requirements of the Land Acquisition Act (Section 23, Sub-Section 2), an additional 15% of the market...
value of the land will be paid to the owners as compensation for compulsory acquisition of the land.

Either WAPDA or the affectee, if dissatisfied with the compensation award, can appeal to the Provincial Board of Revenue, the highest administrative body concerned, before proceeding to a court of law.

8.3 VALUATION OF BUILDINGS

The compensation entitlements for those losing residential buildings are described in Chapter 2. This Section describes the methodology that will be used for valuating the cash compensation to be paid for buildings and all other structures, such as boundary walls.

All structures will be valued at full replacement cost. There will be no deductions for depreciation or for salvage.

Most of the houses in the Project area are constructed with either kacha (unburnt) or burnt bricks laid in mud or cement mortar with traditional beam and batten roofs. However, there are some houses constructed with superior materials and workmanship.

Replacement cost for houses shall be evaluated on the following rates, according to the category of the house based on its type of construction:

- Type A (brick masonry in cement mortar with reinforced concrete/ reinforced brick roof and terrazzo floors) at Rs. 4,000 per square metre of covered area.

- Type B (brick masonry in mud mortar with reinforced concrete/ reinforced brick roof and plain concrete floors) at Rs. 3,200 per square metre of covered area.

- Type C (burnt bricks on external surfaces only, roofs of wood or precast concrete battens and tiles, and brick flooring) at Rs. 2,400 per square metre of covered area.

- Type D (mud houses with mud roofs supported on battens) at Rs. 1,600 per square metre of covered area.

These rates are applicable for 1995 and if, for any reason, the replacement housing is to be constructed after 1995, the rates will be revised appropriately.

For farm buildings and other structures, the value of all built-up assets will be assessed on a replacement cost basis taking into account the size of the structure and the type and quality of construction.
8.4  VALUATION OF CROPS, ORCHARDS AND OTHER TREES

Where permitted by the construction schedule, farmers will be permitted to harvest crops. Where this is not possible, cash compensation will be based on the market value of the crop.

For orchards, the valuation will be based on the net annual income from the orchard, capitalised for 20 years.

For other trees, the valuation will be based on the market value, taking into account the species and the size of the tree. Wood will be salvaged by the owner.
CHAPTER 9

LAND TENURE, ACQUISITION AND TRANSFER
CHAPTER 9
LAND TENURE, ACQUISITION AND TRANSFER

9.1 LAND TENURE

The system of land tenure followed in Pakistan provides for ownership and tenure rights for people with landholdings. These rights include the landowners who inherit land through the law of inheritance or by virtue of a will. A party may also become an owner by purchasing land from others through proper registration with the Government Land Registration offices. Tenant farmers have temporary possession of land on a rental basis, as sharecroppers or as leaseholders.

Land in Pakistan is primarily held on a freehold basis, particularly in rural areas. Whilst the possession of freehold land by a private individual is considered to be a basic right, the Government in recent years has attempted to encourage the dispersal of land amongst the maximum number of people through land reforms. Ceilings were established for individual landowners. Most individuals distributed portions of their land among their family members so that the holding sizes came within the ceilings. However, in a judgement delivered in 1990, the Supreme Court of Pakistan declared unIslamic those provisions of the relevant laws which placed a maximum limit on land holdings.

The Government holds freehold land from two sources:

- Khas (special) land which contains Government buildings, the banks and beds of all rivers, large water bodies used for fishing, uncultivable land used for grazing, vested property, abandoned property, seashores, land with major mineral resources (gas fields, mines, quarries, etc), public markets, khas ponds and tanks. Unused khas land is often illegally occupied, but the Government has the right to clear the land.

- Land acquired by the Government pending disposal to other bodies such as development agencies (eg WAPDA) or other agencies.

In addition, it holds lands for military and para-military establishments, the railways, roads and highways or through departments such as the Forestry Department.

The third public land owner are semi-government and autonomous bodies such as:

- Educational institutes (schools, colleges and universities), both public and private.
Communities, ie playgrounds, graveyards, places of worships (mosques, eidgahs, churches, etc).
- Municipalities or municipal corporations.
- City Development authorities.

9.2 LAND ADMINISTRATION AND MAPPING

As land is a provincial subject, its administration in Pakistan is undertaken by the Provincial Boards of Revenue. The Revenue staff is based at the Districts and is attached to the office of the Deputy Commissioner who is also the Revenue Collector for the District. The Chief Officer entrusted with the local revenue administration of a Tehsil (which is the next sub-division of a District) is the Tehsildar, who exercises the powers of an Assistant Collector and controls the subordinate revenue staff. Subordinate officers or staff who carry out land revenue and administration duties include the Naib Tehsildar, Kanungo and Patwaris. The Patwaris, the front-line staff who interact directly with villagers, are supervised by Kanungos.

The map and ownership records are maintained as required by the Land Revenue Act of 1967. The record of rights (ROR) based on a cadastral survey which is generally at a scale of 4 inches equal to one mile (approximately 1:15,800). Higher scales are used for more congested areas. These maps, together with the ROR (including names of the superior landlord, names of other owners or subordinate tenants, with classifications and areas of each plot established), are accepted as the correct record (until proven otherwise).

9.3 LAND ACQUISITION

The general laws and procedures for acquisition of land are discussed in detail in Chapter 6.

9.4 LAND TRANSFER

9.4.1 Private Land Transfer

On the basis of a willing seller/willing buyer a person may acquire land by agreeing a price with the seller and then registering the purchase at the Land Registration office of the district/municipality where the land is located. In certain rural areas, even oral sales are permitted which have to be acknowledged by the transacting parties before the Revenue Officer prior to being reflected in the revenue records. The periodical revenue record is altered from time to time by revenue mutations. These mutations may be based on gifts, sales (oral or written), inheritance, court decisions, etc. This periodical record is later on incorporated in the permanent record of
9.4.2 Acquired Land Transfer

Acquired land transfer requires interaction between the Requiring Body (RB) and the Acquiring Body (AB). In the case of the Ghazi-Barotha Hydropower Project, the RB is WAPDA and the AB is the respective Provincial Government (Punjab or NWFP) through the respective Revenue Board.

After possession of the acquired land has been taken, its title is formally transferred in the name of the acquiring body. If the requiring body is only an executing agency for some project, then the land may either remain in the name of the acquiring body or be transferred to the Federal Government depending on who would finally fund the purchase of the land. If the requiring body has been visualised to only operate the project on the acquired property, then ownership in the revenue record is shown to be that of the acquiring body or the Federal Government (as the case may be) and the possession is shown as that of the requiring body.
CHAPTER 10

ACCESS TO TRAINING,
EMPLOYMENT AND CREDIT
10.1 VOCATIONAL TRAINING

The PNGO will plan and organise training programmes for Project affectees. These programmes will be aimed in part at PAPs who want to invest the cash compensation they receive from their land in new business opportunities in the area. These income-generating schemes could include construction skills, driver training, poultry farming, fish farming, carpet manufacture, embroidery centres, furniture manufacturing, motor workshops, lathe machine shops, business skills for small wholesale or retail outlets, roadside shops, typing and basic computer skills.

The training will be conducted at the existing vocational institutes at Tarbela and Attock, after augmenting the training capabilities of these centres. The duration of each training programme will vary according to the nature of the skills being imparted.

No fees will be charged from any individual holding a green or blue work permit, and these individuals will be given preference in enrollment in the training programmes. Those from the affected villages, who themselves are not directly affected, and those from the general Project area will be given training as places and facilities are available.

Should the demands on the training programme become very great, a fee system may have to be introduced for the latter groups, and additional centres opened. The entire training programme will be put on a self-supporting (fee-based) basis after 3 years. The initial funds for this component will come from the WAPDA grant for social uplift of the Project region.

10.2 EMPLOYMENT OPPORTUNITIES

The Project will provide extensive employment opportunities in the Project area, both directly in Project construction and indirectly in the provision of goods and services to construction work forces. WAPDA is committed to ensuring that the maximum possible number of jobs in the Project go to local people, particularly to the PAPs.

Providing employment opportunities to local people will enable them to participate in the benefits of the Project, reduce the size of intrusive work forces and work camps, and keep more of the resources spent on the Project in the local economy. It will also give local communities a much greater stake and sense of ownership in the Project. Not surprisingly, jobs in the Project was a constant demand expressed by local people during the village scoping sessions.
The Project employment programme will benefit the Project area in several other ways:

- it will help reduce unemployment in the area;
- it will disseminate information about the Project, as workers communicate with friends and relatives;
- it will provide training for affectees who have to change their means of livelihood, and
- provide additional income, thus improving standards of living.

In order to implement the work permit system, WAPDA will take the following actions:

- Communicate the importance of this requirement to potential tenderers at the pre-tender conference. The principle will be that PAPs and local people will be given preference in hiring in cases where the PAPs and local people have the required skills. Certain skills may not be available locally, but where they are available, they should be made use of by the contractors. Contractors will be asked to provide a plan to show how they will respond to this requirement.

- Provide entitled persons (Chapter 2) with a work permit. The work permit does not guarantee a job on the Project. What it does is to identify the individual as being in a priority category for hiring. Such individuals will be hired before either any local who lacks a permit or an outsider. The PNGO field teams will be responsible for educating local people about the working of this system.

- Gather, through the Social Science Branch (SSB) of the Project Resettlement Organisation, lists of local skilled workers: dozer operators, truck drivers, masons, electricians, etc. These lists will be made available to the contractors. The SSB will monitor hiring to ensure that local people are receiving jobs in the construction of the Project.

- Obtain from the contractors lists of skills required and organise training for PAPs in these skills.

There will be three categories for preference in hiring for the project:

- Green Permit Holders. This is the highest priority category and is for the most vulnerable PAPs. This category of permit holder will be entitled to an income
support grant of Rs. 500 per month for a period of up to one year, if a job is not provided on the Project. This individual will be required to present himself at a designated PRO office once a month. If there is a permanent job (one likely to last a year or more) available, he will be required to take it and begin work on the Project. If a job is not available, he will be given a cheque for Rs. 500. If a permanent job is available and he does not take it, he will lose the monthly income support subsidy.

Blue Permit Holders. This is the second level of priority for work permits. These individuals will be hired before any other applicant having equivalent qualifications, with the exception of the Green Permit holders.

Local People. The third priority category for hiring is that of local people who live in one of the villages directly affected by the Project. Though these individuals will not be given a permit, they can register for jobs on the basis of their national identity card. Any disputes about whether they do indeed come from the area will be solved by reference to the Village Union Council Member or to the Project Contact Committees. These individuals will be hired before outsiders having equivalent qualifications.

This system will ensure that all unskilled, most semi-skilled, and a portion of skilled jobs in the construction of the Project will be filled by PAPs and other local people.

Women and minors entitled to a work permit will be permitted to nominate an alternate person to receive the work permit. Except for these categories, permit-holders will not be able to transfer or sell their permits.

The SSB and the PNGO field teams will be responsible for refining the work permit system and organising its administration. The SSB will maintain a computerised database showing which work permits have active job holders. This information will be available to those responsible for hiring in the Project.

In addition to the above, WAPDA is committed to hiring local people to fill unskilled or semi-skilled positions at its permanent Project operating colonies. If necessary, it will provide basic training to local hires so they can fill these jobs. Skilled positions in the Project O&M teams will be filled by transfers from WAPDA's professional career services, in accordance with standard WAPDA procedure used throughout the country.
10.3 CREDIT

The PNGO will design and implement a programme of income generating schemes and grass-roots credit facilities for the Project region. A sum of Rs. 30 M from the grant for social uplift will be used specifically to support a Self-Employment Generation Scheme on a priority basis for the PAPs, but with access opened later to the general population of the Project area.

This fund will be used to provide loans on easy repayment terms to those who want to open a small business or self-employment scheme. The programme will assist borrowers to plan investments that are feasible. The PNGO will ensure that the programme is easily accessible and that the procedures for the sanction and grant of loans are simple. At the same time, adequate measures will be taken to safeguard recoveries, so that more and more people can benefit from the programme.

10.4 REGIONAL DEVELOPMENT

WAPDA is concerned about the broader regional impacts of the Project. These concerns emanate from the impact of existing Federal infrastructure in the area from Tarbela dam and the Kamra Aeronautical Complex. The Project and the proposed Islamabad-Peshawar motorway (now on hold) will bring additional major infrastructure to the area, both involving substantial land acquisition. Ordinarily, local people would welcome such developments because of anticipated benefits in jobs and other opportunities, but the people of the area do not believe they have gained significantly from either of the existing projects.

This sense of grievance has been considered carefully in the planning of this Project.

WAPDA is committed to avoiding past problems and sees an opportunity to pursue model development in the Project area by incorporating an Integrated Regional Development Plan (IRDP) in the Project. For this reason, WAPDA has hired an internationally-respected NGO to provide a plan for the regional integration and social uplift of the Project area. This will include social uplift (education, health); agricultural development (credit, extension services); and business/industrial development (small and medium scale). The plan will also include programmes for women and other vulnerable groups of the PAPs, and will stress long-term job development in the region.

This component of the Resettlement Action Plan has several purposes:

- to help fulfill the policy guideline that resettlement plans should be executed as development programmes;
- to ensure that Project-affected communities share in project benefits;
- to initiate economic development in the region so that the "boom-bust" cycle of the Project construction phase will not leave unemployment and economic distress in its wake, and
- to give WAPDA experience in model resettlement planning for use in future project planning and design.

The PNGO will be responsible for implementing the IRDP. The Terms of Reference for this implementation will include:

- The responsibility for carrying out specific social uplift measures that emerged as requests during village scoping sessions and for which WAPDA has included funding. These will be initiated during the first year of operation and will include:
  - a literacy programme for girls and adults;
  - credit and self-employment generation, and
  - link roads, village electrification and other physical infrastructure.

- The preparation and implementation of an action plan to mobilise the support of the concerned agencies of the Federal and Provincial governments in regional development.

- A specific mandate to uplift the poorer Sarwala sub-region (Grand Truck road to Barotha), and to pay particular attention to assisting development both at Barotha village, as the most heavily impacted site, and at the three resettlement villages.

- The use, as much as possible, of development schemes that regenerate local capital already invested through participatory programmes.

- The development of a plan to attract funding from external donors, both multilateral and bilateral, for specific projects in the Project region.

- The involvement of local NGOs wherever appropriate in local project planning and implementation.

- The provision for annual auditing, reporting and review by the Board and qualified outside referents, as required in the PNGO's articles of association.

10.5
CHAPTER 11

SHELTER INFRASTRUCTURE AND
SOCIAL SERVICES
11.1 INTRODUCTION

In selecting the locations/alignments of Project components, great care has been taken to minimise the loss of residential houses to the Project. However, although all villages and large clusters of houses have been avoided, it has not been possible to eliminate this impact as houses are scattered over large parts of the Project area. A total of 110 houses will have to be relocated.

The people whose dwellings will have to be relocated will be fully compensated for their loss. They will be provided with residential plots, and basic infrastructure and social services as close as possible to the community with which they identify.

Three resettlement villages are proposed to provide replacement housing for 68 of the 112 houses being lost to the Project. For the remaining houses, which are widely scattered, WAPDA will assist the affected persons in finding suitable locations near their villages for the construction of replacement housing.

In all cases of housing resettlement, the Project field teams will work with the affectees and the PRO engineering staff to design the resettlement village. Women will also be involved in planning to ensure that their perspectives will be reflected in the layout designs.

11.2 RESETTLEMENT VILLAGES

The three resettlement villages will be established at the following locations:

- adjacent to the Lawrencepur-Tarbela road about 1 Km from Ghazi, for those losing 13 houses in District Haripur;
- adjacent to Banda Feroze, for those losing 33 houses in Banda Feroze, and
- adjacent to existing houses of Barotha village on the left side of the tailrace alignment, for those losing 22 houses in Barotha.

These locations have been identified by the concerned PAPs and comprise privately-owned land which will be acquired by WAPDA.

Planning for these sites includes residential plots, as well as space for a park, mosque, school, medical centre and roadways. The village will be grouped around a park in the centre, with the
main community buildings around the park. The PNGO will encourage the development of forestry in the villages.

In each resettlement village, a road network, a water supply and sewage system, and electricity will be provided under the Project. Water will be pumped from a tubewell in each village. WAPDA will provide overhead tanks in the villages. WAPDA will also construct a primary school, a mosque and a Basic Health Unit.

Plots will be allotted to the Entitled Persons (Chapter 2) in these villages and they will construct their houses on these plots. A minimum period of nine months will be provided for construction. After the replacement housing is ready, the concerned family will be provided transport to move into the new housing and the evacuated house will be demolished. They will be permitted to salvage any material from the house at the time of shifting.

As the new locations for resettlements near Barotha and Banda Feroze are not far from their native area, there is no danger of any social or cultural problems for the affectees, or of conflicts with host populations. The resettlement village in District Haripur is somewhat more distant from several of the dwellings to be demolished. Affectees have opted for the site, however, because it brings them closer to the main road in the area and provides them with a potentially valuable property.

11.3 INTEGRATED REGIONAL DEVELOPMENT PLAN

WAPDA is incorporating an Integrated Regional Development Plan (IRDP) in the Project (Chapter 10). This will include social uplift, agricultural development and business/industrial development. The plan will include specific programmes for women and other vulnerable groups of the PAPs.

WAPDA will provide Rs. 176 million towards the implementation of this Plan. Of this, Rs. 30 million will be specifically utilised for credit and income generation schemes.

11.4 VILLAGE ELECTRIFICATION

According to a survey of the Project area, 23 villages have yet to be electrified. The electrification of these villages will require 68 km of 11 kV lines and LT lines within the villages. The PNGO will work with WAPDA to carry out the electrification of these villages as part of the IRDP.

11.5 VILLAGE LINK ROADS

Under the IRDP, village link roads will be provided to those villages losing land to the Project, which do not currently
possess such a road. Funds for village link roads will also be used to repair damage to existing village roads due to construction.
12.1 INTRODUCTION

Major environmental issues related to the Ghazi-Barotha Hydropower Project are treated in the Environmental Assessment Executive Summary (Ref. 12.1) and other related documents. This RAP only focuses on secondary environmental issues related to resettlement.

The original alignment was changed to one that will involve much less displacement of people. Most of those directly affected are expected to resettle in the immediate area, either in the resettlement villages or near their villages.

The environmental problems related to the resettlement sites are the sanitary conditions at these sites. A water supply and sewerage system will be provided in each resettlement village as well as a Basic Health Unit. During construction of the site, care will be taken to allow for adequate drainage and to protect water sources (wells, tubewells) from pollution.

Other resettlement-related environment concerns are discussed below.

12.2 RELOCATION OF GRAVES

Although the power channel alignment avoids all major graveyards, it will be necessary to shift 14 graves in a small family graveyard that could not be avoided near Banda Feroze. Prior to starting the actual work of relocation of these graves, sanction will first need to be secured from local religious leaders allowing their removal and resiting. Detailed discussions on this issue have already been held with the concerned family and the relevant religious leaders, and an agreement reached on the steps to be taken for the relocation of these graves.

12.3 RELOCATION OF MOSQUE

As with the graveyards, religious sensitivities have been taken into account in the relocation of the mosque near Kamra and agreement reached with the concerned people of the village. Appropriate religious sanctions will be obtained before the actual physical work begins to relocate the mosque.

12.4 RELOCATION AND REPLACEMENT OF INFRASTRUCTURE FACILITIES

Two types of public infrastructure will be disturbed by the Project. One category comprises infrastructure which does not
have a direct link with the populace of the Project area. This includes the Government Vocational Institute and its hostels in the Tarbela Colony, and the water supply system and approach roads of the Tarbela Colony in the barrage area.

The second category comprises infrastructure which directly supports the local population. This includes 3 public tubewells (in Ghazi, Khalo and Isa), 2 overhead tanks (in Ghazi and Khalo) and one irrigation water course (from the Qibla Bandi dam in the Barazai area), over 30 power and telephone poles, and a gas pipeline in the corridor of the power channel.

The Project provides for realigning the roads, power and telephone lines, and gas pipeline and provides road and pedestrian crossings where necessary. New tubewells and overhead tanks will be installed. The irrigation channel will be provided with a crossing over the power channel.

The privately-owned infrastructure to be affected includes about 20 small tubewells and about 19 open wells and Persian wheels. There are also two water diversion structures and two irrigation canals in the Barotha area. The Project will provide replacement cost for the tubewells, wells and Persian wheels. The irrigation diversion structures and canal system in the Barotha area will be replaced by appropriate new works.

12.5 SAFETY MEASURES

Three types of safety measures will be implemented for the power channel:

- a programme to educate the public, especially children, about the dangers of the channel;

- physical measures to keep people away from the channel; and

- physical measures to get people out who have fallen in or otherwise enter the channel.

Educational programmes will be presented by WAPDA in schools to make children aware of the dangers of the channel. The Project field teams will also use village dialogues to reinforce safety warnings. These efforts will be supplemented with pictorial warning signs at the channel itself and at clinics, schools and other public places.

Physical measures will be used to prevent access: fencing at all points where people live close to the channel, at bridges and near villages and shrines.

An individual falling into the power channel will have to remain rational and stay afloat. There will be floating safety ropes at
bridges and superpassages, and grab rails running down the sides of the channel into the water.

12.6 PUBLIC MOVEMENTS

The question of providing access between villages on the right bank of the power channel and fields on the left bank received early attention. Existing roads that crossed the proposed alignment were obvious locations for bridges. In addition, there is considerable pedestrian and vehicular traffic in the dry beds of the nullahs, for which a number of additional road bridges will be provided, often attached to the nullah crossings (superpassages).

There will be a total of 46 crossings of the power channel, somewhat closer together in the more populous upstream region. Most of these are located at the traditional crossing points. Thus the impact on pedestrian, livestock and vehicular traffic will be minimal.

12.7 CULTURAL PROPERTIES

The power channel alignment has been selected to avoid graveyards and shrines. However, there are several mounds along the channel corridor. An archaeological survey has shown that two of these are of archaeological interest and will be excavated beforehand. The cost of salvage operations for these sites has been included in the Project cost. Another site lies in an area to be covered by spoil banks and will be protected.

Only one significant cultural property has been identified in the proposed borrow areas and this area will not be used as a source of material for the Project. A minor shrine on the right bank of the barrage pond, 1 km upstream of Galla, will be protected by an embankment.

Appropriate protective and/or salvage measures will be adopted if any archaeologically significant properties are uncovered during the construction activities, for which necessary provisions have been made in the civil works tender documents.

REFERENCES

12.1 Pakistan Hydro Consultants; Ghazi-Barotha Hydropower Project, Environmental Assessment Executive Summary, September 1994.
CHAPTER 13

IMPLEMENTATION SCHEDULE, MONITORING AND EVALUATION
CHAPTER 13
IMPLEMENTATION SCHEDULE, MONITORING AND EVALUATION

13.1 GENERAL

This Chapter distinguishes two levels of implementation scheduling, monitoring and evaluation. At the macro level, links are made between the physical progress of the construction works and progress in resettlement. At the micro level, details are given for the sequence of resettlement activities and events.

13.2 MACRO LEVEL IMPLEMENTATION SCHEDULE

13.2.1 Overall Schedule

The overall schedule for the construction of the Project is as follows (Table 13.1):

- contracts for construction of the barrage, power channel and power complex awarded in May 1995;
- contracts for the supply and erection of the turbines and generators awarded in August 1995;
- completion of the barrage in 51 months;
- completion of the power channel in 51 months, and
- completion of the power complex and commissioning of the first generating unit in 56 months, with the fifth unit commissioned 8 months later.

More details are given in the Project Report (Ref. 13.1). It is expected that the excavation of the power channel will be started from the Barotha end and proceed upstream. This will be the most important aspect as regards land purchase and resale, and the construction of replacement infrastructure.

13.2.2 Land Acquisition

On receipt of the go-ahead signal for the Project from the Government of Pakistan, the land acquisition process was initiated. Under the procedures of the Land Acquisition Act, possession of an area must first be transferred to WAPDA by the District Collector before any contractor moves in. Possession is transferred only after landholders have been compensated for the loss of their land. The fact that cases have been taken to the courts by individual landholders over issues of valuation or ownership does not prevent the transfer of possession, provided the Act has been followed properly. The Act does not enable
private persons to hold up a major public undertaking, where land is acquired under the right of eminent domain.

Land acquisition at the barrage site is not an issue, this being government-owned land. Major construction in the Project will begin near Barotha, where the power complex and the downstream end of the power channel will be located. It is anticipated that the power channel will be constructed commencing from the downstream end and working upstream. The Barotha area will also house a temporary work camp and a permanent WAPDA operating colony. There will also be WAPDA colonies near Ghazi (upgrading an existing colony) and near Lawrencepur. Construction or upgrading of these colonies will start soon so that most of the required housing will be available when Project construction starts.

Land acquisition is expected to have been completed by the time that the main construction contracts are awarded.

13.2.3 Relocation of Houses

The relocation of houses will be a priority in the Project construction schedule. Resettlement housing will be completed and the families will move into their new dwellings prior to any major construction in that area of the Project. The process of acquisition of land for a resettlement village near Barotha has commenced. The construction of this village will go along in tandem with the construction of the permanent WAPDA colony on the east side of the Dakhner-Gariala Road. The Engineering Section of the PRO will have about nine months to construct this site before the contractors move into the Barotha area. The design of the village will be completed and a separate construction contract awarded during the period of land acquisition. Committees of resettlers, assisted by the PNGO field teams, will assist the Engineering Section in the design of the new housing areas. These committees also will be responsible for the allotment of plots, which will then be certified by the committee noted above. Again, in the event the latter committee fails to achieve an equitable allotment, the committee chaired by the Chief Engineer & Project Director (GBHP) will make the final determination.

A period of nine months will be provided to the affectees to construct replacement houses. If the construction schedule does not provide sufficient time for construction of the replacement houses, the affected family will be provided temporary accommodation free of charge by WAPDA. Alternatively, at the option of the affected family, the family will make their own arrangements for temporary accommodation and WAPDA will pay rental based on the standard rent evaluated for the existing house of the family. In either case, WAPDA will also pay for the additional shifting costs.
The infrastructure for the resettlement villages near Banda Feroze and Ghazi will be constructed early so that the resettlers can move into the new housing before the start of Project construction in those areas.

13.2.4 Transfer Arrangements

The Social Science branch and the PNGO field teams will be responsible for making the arrangements for moving the resettler families to their new houses. They will be assisted by the Engineering sections of the Project Resettlement Organisation, as necessary. The PRO will move the individuals, all their movable property, and all stable or home-fed livestock, poultry or other domestic animals. Movable property will include all household effects, items salvaged from the previous dwelling or farm buildings, firewood, and trees and shrubs small enough to be dug out by hand and their roots balled in burlap.

Fortunately, the distance over which families will have to be moved are not great. Therefore, in some cases individuals and livestock will simply move on foot. However, where vehicles are required, appropriate safety measures will be taken, especially for people. Vehicles to move people will be provided by WAPDA.

13.2.5 Replacement and Relocation of Facilities

The replacement of the public properties and other public infrastructure to be demolished will be executed by the respective departments.

Funds covering the cost of relocation works at the PAF Base Colony and Aeronautical Complex, Kamra are being placed at the disposal of the concerned departments. Similarly, the dislocation cost of the government properties (WAPDA and Public Health Department of NWFP) will be placed at the disposal of these departments. Payments for all the housing units, tubewells and other infrastructure will be made within a period of 12 months. A period of 24 months will be taken by the concerned organisations to construct public facilities at the alternate location. Thus the replacement and relocation facilities will be completed in a period of three years, with the relocation of individual facilities scheduled to meet the construction requirements.

13.2.6 Rehabilitation of Spoil Banks Including Tubewells

Rehabilitation of the spoil banks will be part of the main contract for the power channel and will be completed in reaches as the excavation of the power channel advances. The tubewells on the spoil banks will be installed under a separate contract.

The main construction work on the power channel (channel excavation and lining) is expected to start about 12 months
after the award of the contract, based on an assessment of the
time required to manufacture the special lining equipment and to
successfully carry out trial lining. Spoil banks on the first
reach along the power channel are expected to be made available
for sale to the Project-affected farmers within 12 months from
the start of this construction. The last reach will become
available for sale with the completion of the main contract for
the power channel, 51 months after the contract award.

The allocation of the developed land will first be entrusted to a
committee composed of the farmers resettling around a tubewell,
assisted by the Project field teams (PNGO and SSB). As much as
possible, the farmers themselves should come up with an allotment
plan that is equitable and that enables kinship and family groups
to settle in contiguous plots. When this is achieved, the
allotment plan will be approved and adopted by a committee
comprised of the Chief Engineer & Project Director (Ghazi-Barotha
Hydropower Project) or his nominee, representatives of the PNGO,
the WAPDA Environmental Cell (WEC), the Land Acquisition
Collector and a representative of the District Collector
(preferably a Tehsildar). If a farmer group fails to agree on an
allotment plan, the above committee will finalise one for them.
The representative of the District Collector will be responsible
for seeing that the land allotment is recorded in the land
records and village jamabandi.

13.2.7 Relocation of Graves

The physical relocation of the 14 graves in the power channel ROW
will be started prior to the award of the construction contract. The
actual relocation work will be completed in a period of three
months. A Project field team will discuss this relocation with
the affected families and arrive at an acceptable plan. If the
affected families wish to do this work themselves, WAPDA will
provide the necessary funds and equipment.

13.2.8 Mosque near Kamra Village

The relocation and construction of the small mosque in the ROW
near Kamra Village is estimated to require about 6 months and
will be completed well before the start of construction activity
in the area.

13.2.9 Project Non-Governmental Organisation (PNGO)

The two-year contract for the establishment of the PNGO is
expected to be awarded by September 30, 1994. The PNGO will
participate in key resettlement actions early in the Project,
including valuation of land, the formation of Project contact
committees (including committees of settlers acquiring
relocated housing), the certification of full payment to
landowners and homeowners, and planning and organisation for the
occupation of the developed spoil banks. The formation of this group is a critical path item for WAPDA. Discussions with the National Rural Support Programme (NRSP) on the establishment of the PNGO are underway.

WAPDA will deposit the money for the trust fund for the PNGO as soon as the PNGO is established and the Board of the PNGO appointed. The Board will hire a Director, who will be responsible for providing a staffing plan for the organisation and for hiring the staff. The PNGO will start functioning by November 30, 1994.

13.3 MICRO LEVEL IMPLEMENTATION SCHEDULE

The schedule presented in Table 13.2 shows in sequence and detail the activities for carrying out resettlement under the Project. These are presented in benchmark form in order to serve as an aid during implementation and monitoring. In addition to the activities described above, these include the appointment of the Monitoring Consultants, staffing of the PRO, preparation and implementation of the IRDP, further scoping sessions, training, credit and self-employment schemes, etc. As the activities have been described in detail elsewhere in this Plan, they are not reiterated in this section. In the table, reference is given to the relevant Chapter of the RAP. Details on monitoring and evaluation follow in Section 13.4.

The schedule given in Table 13.2 begins with the date of September 1994. Important benchmarks relating to resettlement that have already been completed by the end of August 1994 are shown as completed on this schedule in order to provide a complete coverage of all resettlement related activities.

13.4 MONITORING

Monitoring will be a continuous activity of data gathering and analysis to check the effectiveness of implementation and to bring to light any impacts unforeseen during earlier phases of the Project.

Monitoring of resettlement will be one of the responsibilities of WAPDA's Environmental Cell. This Cell, created before the Project, will be strengthened by the Project to meet its requirements on the resettlement as well as the environmental side.

Given the limited expertise in resettlement monitoring within WAPDA, the following five-pronged approach has been adopted to ensure effective resettlement monitoring of the Project:

- The WAPDA Environmental Cell (WEC), with appropriate support, will be the agency with the overall responsibility for the resettlement monitoring of the
Project. The WEC will be strengthened through further recruitment and training and by recognition on the part of senior management that resettlement is a fully supported career track within the organisation. As its capabilities grow, the WEC will take over the tasks assigned to the Monitoring Consultants, as defined below.

An external organisation, henceforth called the Monitoring Consultants, to support the WEC, as required, in the monitoring of all the resettlement and environmental effects of the Project.

The PNGO will evaluate social trends (foreseen and unforeseen), identify adverse impacts or consequences of the Project and consult with the PRO and local organisations on their resolution.

An external Environmental Panel, which will evaluate resettlement aspects on a periodic basis and, where necessary, suggest ways of strengthening the monitoring and evaluation process.

In order to monitor the Project, the WEC, supported by the Monitoring Consultants, will:

- Maintain a permanent presence in the Project area in order to monitor and evaluate the resettlement effects of the Project on different components of the environment and on all segments of the population.

- Whenever necessary, undertake or commission additional studies or surveys to gain a more accurate picture of the resettlement effects of the Project.

- Prepare six-monthly resettlement/environmental reports on the implementation of the RAP and the state of the Project environment.

- Maintain access to the senior management of WAPDA and, through the Engineer, to the Project Contractor/s, immediately inform them of any adverse resettlement impacts, and recommend appropriate action.

The specific monitoring responsibilities of the WEC, assisted by the Monitoring Consultants, will include:

- Monitor land acquisition and compensation processes.

- Monitor how temporary borrow areas are compensated. This will include arranging quick payments to landholders for inadvertent damage to fields and crops.
Observe the movement of families to resettlement areas to ensure that the concerns and safety of the resettlers are taken care of.

Monitor local labour hiring to ensure that those directly affected by the Project (holders of green and blue work permits) are given priority in hiring and that labour hiring policies generally benefit the Project area.

Monitor the Barotha construction area, to ensure that irrigation is maintained along the nullah, and that land acquisition, access roads, work sites, housing areas (temporary and permanent), social services and sewage disposal meet environmental standards and do not destabilise the village.

Check to see that safety measures during construction can be coordinated with the movements required for agriculture, herding, funeral processions, etc.

Monitor the development of the spoil banks. This includes checking with the farmers' groups, SSB, PNGO and Project Resettlement Organisation, and Senior Agronomist to see that the tubewell command areas are equitably allotted and that the land is brought into cultivable condition as expeditiously as possible.

The Social Science Branch of the Project Resettlement Organisation and the PNGO will assist the WEC in the following monitoring tasks:

- Provide briefings and any information requested on the social and economic development of the spoil banks.

- Provide data sets of information for inclusion in the socio-economic and household income databases.

- Provide information on the land acquisition process, showing how much each landholder received for his land as against the value recorded in the Certificate of Compensation.

- Provide information showing when each received payment.

- Provide information/briefings on the transfer of PAPs to relocated housing and the measures taken to organise these resettlers.

- Provide data on the hiring of local labour for the Project.

- Actions taken specifically to assist Barotha village.
The PNGO will assist the WEC and Monitoring Consultants by providing information and/or briefings on:

- the long-term effects of the Project on social trends, including public health, in the Project area;
- the organisation of Self-Employment Generation Schemes, including data on the numbers of PAP households involved;
- the organisation of the local credit schemes, including data on the numbers of PAP households involved, and
- plans and implementation measures for the development of the Project area, including measures to encourage the long-term growth in work opportunities.

The monitoring responsibilities are shown in Table 13.3.

13.5 EVALUATION

Considerable data will become available as a result of continued social, resettlement and environmental monitoring of the Project. This data will need proper analysis and assessment to determine the extent to which the end results envisaged in the planning stage are being attained. This will require proper evaluation, as appropriate, by the experts of the WEC, the Monitoring Consultants, and the Environmental Panel of Experts. Teams from these groups will visit the Project periodically. In the event that satisfactory results are not attained by Project resettlement activities, the shortfalls will be identified and properly analysed, remedial measures will be recommended to the Chief Engineer and Project Director and implemented through the appropriate section of the Project or other organisation.

Resettlement actions will be monitored and evaluated by the WEC, assisted by the Monitoring Consultants. An evaluation of resettlement actions will be included in the six monthly Environmental Monitoring Reports. In addition, in the event of problems occurring in resettlement activities, as perceived by the monitoring teams, a Special Resettlement Monitoring Report will be prepared and sent to the Chief Engineer and Project Director for immediate action. Generally, major problems will be spotted by the Social Science Branch and/or PNGO, and brought to the attention of the Environmental & Resettlement Review Committee, which is chaired by the Chief Engineer and Project Director. In the event that major problems slip through this safety net, however, the monitoring process will pick them up and bring them to the attention of the Chief Engineer and other appropriate authorities.

A formal mid-term evaluation of the Project will be carried out in the middle of 1997 to assess the implementation of the
resettlement activities and to ascertain if the PAPs have been able to successfully restore standards of living.

The evaluation of the resettlement activities of the Ghazi-Barotha Hydropower Project will provide immense guidance to WAPDA in planning other major water resources and hydropower Projects in Pakistan.

REFERENCES

CHAPTER 14

RESETTLEMENT - RELATED COSTS
CHAPTER 14

RESETTLEMENT-RELATED COSTS

14.1 GENERAL

This Chapter provides an assessment of the costs of resettlement-related actions envisaged under the Resettlement Action Plan. The estimate of these costs is based on the available data and a contingency provision has been added to take into account variations from this data. WAPDA is committed to defray the actual costs incurred in carrying out the envisaged resettlement-related actions and to provide the funds required in a timely manner. Adequate provisions exist in the approved Project cost estimate.

During the environmental impact assessment and the planning of the Project, certain mitigation measures including resettlement and relocation works were proposed and their cost has been included in the Project cost. The environmental assessment report also suggested some measures for social uplift of the communities of the Project area. WAPDA will contribute to the implementation of the social uplift programme and this contribution has been included in the resettlement-related costs (Table 14.1).

Details of the impacts to be compensated, the number of entitled persons and their respective entitlements are described in Chapter 2. This has formed the basis for the cost estimates given below. A conversion rate of Rs. 31 per US Dollar has been used.

Table 14.1 provides the package of the resettlement costs itemised into:

- Land Acquisition Cost
- Replacement Cost of Residential Houses
- Replacement Cost of Privately-owned Infrastructures
- Compensation for Farm Produce
- Relocation of Community Infrastructures
- Cost of Resettlement Villages
- Cost of Development of Spoil Banks
- Trust Fund for PNGO
- Costs Related to the Integrated Regional Development Plan
- Costs Associated with Work Permits
- Cost of Studies
Monitoring Costs

- WAPDA'S Administration Costs
- Contingencies

These costs are discussed below.

14.2 LAND ACQUISITION COST

A total of 3,457 ha of privately-owned land will be acquired for the Project, out of which 1,817 ha will be retained permanently by WAPDA. The remaining 1,640 ha will be used for disposal of the spoil, which will then be graded, covered with topsoil, provided with tubewells for irrigation and sold back to the farmers.

The cost of land acquisition is estimated to be US $ 61.84 M (Rs. 1916.89 M). Out of this about US $ 27.27 M (Rs. 845.38 M) will be recoverable due to resale of land on the spoil banks in the process of resettlement of entitled persons.

14.3 REPLACEMENT COST OF RESIDENTIAL HOUSES

As discussed in Chapter 8, there are four categories of housing structures (Type A through D) which total 110 houses. The replacement cost has been assessed on the basis of the total covered area and the current replacement rate per unit area. The covered areas of various categories of housing are as follow:

- Type A houses 1,213 sq m
- Type B houses 1,012 sq m
- Type C houses 5,190 sq m
- Type D houses 4,388 sq m

The compensation cost under this category will be US $ 0.89 M (Rs. 27.57 M).

14.4 COST OF PRIVATELY-OWNED INFRASTRUCTURE

The construction of the Project will disrupt the following privately-owned infrastructure requiring replacement and relocation:

- Replacement of irrigation tubewells 20
- Replacement of open wells 19
14.5 COMPENSATION FOR FARM PRODUCE

The term of farm produce in the context of the present RAP is limited to the loss of crops, orchards and other trees. In general, the land acquisition and construction activities will be so scheduled that there will be a minimal effect on the standing crop. However, in consideration that some area may be acquired when the crop is still standing, it has been assumed that compensation may be required for crops on 1% of the total agriculture land.

As far as orchards and trees are concerned, the numbers estimated are as follows:

- Orchard trees 9,100
- Other trees 100,000

The total compensation cost for this category is estimated as US $ 0.98 M (Rs. 30.30 M).

14.6 RELOCATION OF COMMUNITY INFRASTRUCTURES

These are infrastructures which are not directly related to the resettlement, but are of social and cultural concern of the PAPs. These include graves, a mosque, water supply system and overhead tanks near Ghazi-Khalo, and village roads leading to Barotha and Dher. These facilities will be disrupted by the Project structures and have to be relocated. The total cost for their relocation is estimated as US $ 0.44 M (Rs. 13.49 M).
14.7 COST OF RESETTLEMENT VILLAGES

This includes the cost to be incurred on the development of Resettlement Villages near Ghazi, Banda Feroze and Barotha, and provision of social amenities like schools, dispensaries and mosques. The total cost for the Resettlement Villages is estimated as US $ 0.28 M (Rs. 8.55 M).

14.8 COST OF DEVELOPMENT OF SPOIL BANKS

The cost for the works related to the provision of 150 tubewells on the spoil banks for resettlement of land affectees and for the agricultural extension services to be provided to assist the resettlers is estimated as US $ 1.95 M (Rs. 60.36 M).

14.9 TRUST FUND FOR PNGO

An amount of US $ 3.23 M (Rs. 100 M) has been included for the payment to be made by WAPDA for the creation of a trust fund for the PNGO.

14.10 COSTS RELATED TO THE INTEGRATED REGIONAL DEVELOPMENT PLAN

WAPDA will provide US $ 5.68 M (Rs. 176 M) towards the implementation of this Plan. Of this, US $ 0.97 M (Rs. 30 M) will be specifically utilised for credit and income generation schemes.

14.11 COSTS ASSOCIATED WITH WORK PERMITS

WAPDA will provide stipends to green work permit holders if they are unable to find employment on the Project. The amount of the stipend will be Rs. 500 per month for a period of up to one year. The total cost is conservatively estimated as US $ 0.29 M (Rs. 9 M).

14.12 COST OF STUDIES

A provision has been made to pay for the expenses of studies related to the development of the Integrated Regional Development Plan, sewage system for Ghazi-Khalo, town planning for Ghazi-Khalo and the pilot project for the spoil banks. The cost is estimated as US $ 0.32 M (Rs. 10 M).

14.13 MONITORING COSTS

A sum of US $ 1.63 M (Rs. 32 M plus US $ 0.6 M) has been allocated for meeting the monitoring costs required for the
implementation of the resettlement programme. This includes costs associated with the following:

- Environmental Monitoring Cell (WAPDA),
- Monitoring Consultants, and
- Environmental Review Panel.

14.14 WAPDA'S ADMINISTRATION COSTS

A provision of US $ 1.50 M (Rs. 46.47 M) has been made to cover WAPDA's administration costs, which represents 3% of the resettlement-related costs.

14.15 CONTINGENCIES

A provision of US $ 2.57 M (Rs. 79.77 M) has been made for contingencies to cover costs such as:

- Shifting expenses for those who wish to receive cash-for-land compensation and shift their residences out of the Project area. The costs will be limited to expenses corresponding to a distance of up to 100 km.
- Variations in the estimated compensation to be paid to different categories of Entitled Persons/Organisations.

The contingency provision is 5% of the sum of all the resettlement-related costs given in the preceding sections. This is in addition to the contingency provision of 264 ha of land acquisition to cover the possibility of having to acquire residual fragments of land from PAPs and other contingencies.

14.16 TOTAL RESETTLEMENT-RELATED COSTS

The total resettlement-related costs are US $ 54.64 M (Rs. 1675.14 M plus US $ 0.6 M).
### TABLE 1.1

**PRINCIPAL PROJECT DATA**

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BARRAGE</strong></td>
<td></td>
</tr>
<tr>
<td>Area of pond at normal pond level</td>
<td>1,140 ha</td>
</tr>
<tr>
<td>Normal pond level</td>
<td>340.0 m</td>
</tr>
<tr>
<td>Maximum (survival flood) pond level</td>
<td>341.5 m</td>
</tr>
<tr>
<td>Live storage volume</td>
<td>62 M cu m</td>
</tr>
<tr>
<td>Low-flow season range in water level</td>
<td>3.3 m</td>
</tr>
<tr>
<td>Maximum depth</td>
<td>14 m</td>
</tr>
<tr>
<td>Design flood discharge capacity</td>
<td>18,700 cumecs</td>
</tr>
<tr>
<td>Survival flood discharge capacity</td>
<td>46,200 cumecs</td>
</tr>
<tr>
<td>Construction flood</td>
<td>14,500 cumecs</td>
</tr>
<tr>
<td>Bridge carriageway width</td>
<td>9.3 m</td>
</tr>
<tr>
<td>Gates (No. x width x height)</td>
<td></td>
</tr>
<tr>
<td>Standard bays</td>
<td>20 x 18.3 m x 8.3 m</td>
</tr>
<tr>
<td>Undersluces</td>
<td>8 x 18.3 m x 3.5 m</td>
</tr>
<tr>
<td>Head regulator</td>
<td>8 x 18.3 m x 7.5 m</td>
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<tr>
<td><strong>POWER CHANNEL</strong></td>
<td></td>
</tr>
<tr>
<td>Design flow</td>
<td>1,600 cumecs</td>
</tr>
<tr>
<td>Longitudinal slope</td>
<td>1:9,600</td>
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<tr>
<td>Length</td>
<td>52 km</td>
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<tr>
<td>Full supply depth</td>
<td>9 m</td>
</tr>
<tr>
<td>Side slope</td>
<td>1V:2H</td>
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<tr>
<td>Width at water surface</td>
<td>94.4 m</td>
</tr>
<tr>
<td>Water velocity</td>
<td>2.33 m/s</td>
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<tr>
<td>Freeboard of concrete lining</td>
<td>1.5 m</td>
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<tr>
<td>Tail regulator gates (No. x width x height)</td>
<td>4 x 18.3 m x 9.5 m</td>
</tr>
<tr>
<td>Total excavation</td>
<td>76 M cu m</td>
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<tr>
<td>Service road width (on either side)</td>
<td>10 m</td>
</tr>
<tr>
<td>Embankment width retained by WAPDA (on either side)</td>
<td>25 m</td>
</tr>
<tr>
<td>Road bridges</td>
<td>34</td>
</tr>
<tr>
<td>Railway bridges</td>
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</tr>
<tr>
<td>Pedestrian crossings</td>
<td>12</td>
</tr>
<tr>
<td>Superpassages</td>
<td></td>
</tr>
<tr>
<td>Superpassages design flood (no overflow)</td>
<td>500 years</td>
</tr>
<tr>
<td>Number</td>
<td>26</td>
</tr>
<tr>
<td>Culverts</td>
<td>1</td>
</tr>
<tr>
<td>Nullah inlets</td>
<td>18</td>
</tr>
<tr>
<td>Escapes</td>
<td>5</td>
</tr>
<tr>
<td>Permanent land requirement</td>
<td>1,000 ha</td>
</tr>
<tr>
<td>Temporary land requirement</td>
<td>1,640 ha</td>
</tr>
<tr>
<td>Tubewells on spoil banks (No. x capacity)</td>
<td>150 x 7 I/s</td>
</tr>
</tbody>
</table>
### TABLE 1.1

**POWER COMPLEX**

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turbines/generators (Francis)</td>
<td>5 No x 290 MW</td>
</tr>
<tr>
<td>Total generation capacity</td>
<td>1,450 MW</td>
</tr>
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<tr>
<td>Minimum water level</td>
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<tr>
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<td>Total embankment length</td>
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<td>Spillway capacity</td>
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<td>Headponds and embankments</td>
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## TABLE 2.1
LAND REQUIRED FOR THE PROJECT

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<th>SR. No.</th>
<th>PROJECT COMPONENT</th>
<th>LAND REQUIRED (ha)</th>
<th>STATE-OWNED</th>
<th>PRIVATELY OWNED</th>
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<tr>
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<td>PERMANENT FOR STRUCTURES</td>
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<td>Power complex including colony and roads</td>
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<td>-</td>
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### TABLE 2.2

**ACQUISITION OF PRIVATELY-OWNED LAND**

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<td>ATTOCK</td>
<td>76.2</td>
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(3.4%) (81.9%) (14.7%)
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<th>SR. NO.</th>
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<th>TOTAL LAND (ha)</th>
<th>LAND TO BE ACQUIRED (ha)</th>
<th>%</th>
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## OWNERS OF LAND TO BE ACQUIRED

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<td>66</td>
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<td>2</td>
<td>632</td>
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<td>9</td>
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<td>105</td>
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<td>319</td>
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<td>281</td>
<td>82</td>
<td>78</td>
<td>97</td>
<td>87</td>
<td>86</td>
<td>712</td>
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<td>Gondol</td>
<td>87</td>
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<td>55</td>
<td>36</td>
<td>21</td>
<td>38</td>
<td>275</td>
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<tr>
<td>Hej Shah</td>
<td>218</td>
<td>150</td>
<td>228</td>
<td>42</td>
<td>53</td>
<td>64</td>
<td>758</td>
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<td>16</td>
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<tr>
<td>Dakhar</td>
<td>246</td>
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<td>206</td>
<td>97</td>
<td>65</td>
<td>76</td>
<td>817</td>
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<td>13</td>
<td>3</td>
<td>0</td>
<td>44</td>
<td>78</td>
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<tr>
<td>Dher</td>
<td>227</td>
<td>70</td>
<td>225</td>
<td>126</td>
<td>126</td>
<td>158</td>
<td>945</td>
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<td>Bartha</td>
<td>179</td>
<td>32</td>
<td>168</td>
<td>49</td>
<td>90</td>
<td>116</td>
<td>640</td>
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<td>Chohi Garials</td>
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<td>50</td>
<td>43</td>
<td>22</td>
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<td>259</td>
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<tr>
<td>Surg Sabir</td>
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<td>6</td>
<td>17</td>
<td>5</td>
<td>0</td>
<td>3</td>
<td>96</td>
</tr>
<tr>
<td>Shekar Dera</td>
<td>22</td>
<td>2</td>
<td>14</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>43</td>
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<tr>
<td>Serwala</td>
<td>9</td>
<td>12</td>
<td>20</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>42</td>
</tr>
<tr>
<td>Sub-Total Punjab</td>
<td>7,592</td>
<td>2,372</td>
<td>3,471</td>
<td>1,179</td>
<td>957</td>
<td>877</td>
<td>16,481</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>9,184</td>
<td>2,874</td>
<td>4,242</td>
<td>1,411</td>
<td>1,142</td>
<td>987</td>
<td>19,875</td>
</tr>
<tr>
<td><strong>Males</strong></td>
<td>5,372</td>
<td>1,774</td>
<td>2,663</td>
<td>916</td>
<td>830</td>
<td>748</td>
<td>12,332</td>
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<tr>
<td><strong>Females</strong></td>
<td>3,812</td>
<td>1,100</td>
<td>1,579</td>
<td>495</td>
<td>312</td>
<td>239</td>
<td>7,543</td>
</tr>
</tbody>
</table>

Note: Excluding multiple counts (6,503) and shamilat (1,752).
TABLE 2.5
DISTRIBUTION OF AFFECTEES BY LAND OPERATIONAL UNITS

<table>
<thead>
<tr>
<th>LAND UNITS OPERATED BY NO. OF PERSONS</th>
<th>LAND UNITS</th>
<th>AFFECTEES</th>
<th>LAND AREA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NO.</td>
<td>%</td>
<td>NO.</td>
</tr>
<tr>
<td>1</td>
<td>3,055</td>
<td>84.9</td>
<td>18,392</td>
</tr>
<tr>
<td>2</td>
<td>340</td>
<td>9.4</td>
<td>3,697</td>
</tr>
<tr>
<td>3</td>
<td>125</td>
<td>3.5</td>
<td>1,950</td>
</tr>
<tr>
<td>4</td>
<td>47</td>
<td>1.3</td>
<td>897</td>
</tr>
<tr>
<td>5</td>
<td>13</td>
<td>0.4</td>
<td>303</td>
</tr>
<tr>
<td>6</td>
<td>11</td>
<td>0.3</td>
<td>875</td>
</tr>
<tr>
<td>7</td>
<td>6</td>
<td>0.2</td>
<td>169</td>
</tr>
<tr>
<td>8</td>
<td>2</td>
<td>0.1</td>
<td>76</td>
</tr>
<tr>
<td>10</td>
<td>1</td>
<td>0.0</td>
<td>19</td>
</tr>
<tr>
<td>Total</td>
<td>3,600</td>
<td>100.0</td>
<td>26,378</td>
</tr>
</tbody>
</table>
TABLE 2.6
NUMBER OF AFFECTEES HAVING LAND ADDITIONAL TO THAT BEING ACQUIRED

<table>
<thead>
<tr>
<th>SIZE OF ADDITIONAL LAND ha</th>
<th>AFFECTEES NO.</th>
<th>%</th>
<th>LAND AREA ha</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 0.05</td>
<td>129</td>
<td>0.8</td>
<td>0.4</td>
</tr>
<tr>
<td>0.05 - 0.25</td>
<td>659</td>
<td>4.0</td>
<td>22.4</td>
</tr>
<tr>
<td>0.25 - 0.50</td>
<td>1,385</td>
<td>8.4</td>
<td>95.1</td>
</tr>
<tr>
<td>0.5 - 1.0</td>
<td>2,067</td>
<td>12.6</td>
<td>328.9</td>
</tr>
<tr>
<td>1.0 - 2.0</td>
<td>2,726</td>
<td>16.6</td>
<td>767.7</td>
</tr>
<tr>
<td>2.0 - 3.0</td>
<td>1,321</td>
<td>8.0</td>
<td>729.0</td>
</tr>
<tr>
<td>3.0 - 4.0</td>
<td>910</td>
<td>5.5</td>
<td>584.1</td>
</tr>
<tr>
<td>4.0 - 5.0</td>
<td>1,122</td>
<td>6.8</td>
<td>833.3</td>
</tr>
<tr>
<td>5.0 - 10.0</td>
<td>2,153</td>
<td>13.1</td>
<td>2,226.7</td>
</tr>
<tr>
<td>10.0 - 15.0</td>
<td>1,101</td>
<td>6.7</td>
<td>1,607.3</td>
</tr>
<tr>
<td>15.0 - 20.0</td>
<td>572</td>
<td>3.5</td>
<td>1,192.2</td>
</tr>
<tr>
<td>20.0+</td>
<td>2,316</td>
<td>14.1</td>
<td>35,889.6</td>
</tr>
<tr>
<td>Total</td>
<td>16,463</td>
<td>100.0</td>
<td>44,276.7</td>
</tr>
</tbody>
</table>

Average additional land holding per affectee is 2.7 ha.
### Table 2.7

**INCOME OF AFFECTEES**

<table>
<thead>
<tr>
<th>INCOME FROM LAND TO BE ACQUIRED (Rs.)</th>
<th>AFFECTEES BY LAND SIZE</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt; 0.05</td>
<td>0.05 - 0.25</td>
<td>&gt; 0.25</td>
<td>TOTAL</td>
<td></td>
</tr>
<tr>
<td>&lt;= 5000</td>
<td>90.8</td>
<td>66.4</td>
<td>11.7</td>
<td>37.7</td>
<td></td>
</tr>
<tr>
<td>5001 - 10000</td>
<td>4.1</td>
<td>20.2</td>
<td>19.1</td>
<td>17.7</td>
<td></td>
</tr>
<tr>
<td>10001 - 15000</td>
<td>1.5</td>
<td>5.7</td>
<td>11.1</td>
<td>8.3</td>
<td></td>
</tr>
<tr>
<td>15001 - 20000</td>
<td>1.8</td>
<td>3.1</td>
<td>11.9</td>
<td>8.0</td>
<td></td>
</tr>
<tr>
<td>20001 - 25000</td>
<td>0.3</td>
<td>0.7</td>
<td>6.1</td>
<td>3.8</td>
<td></td>
</tr>
<tr>
<td>25001 - 50000</td>
<td>0.9</td>
<td>2.6</td>
<td>20.1</td>
<td>12.5</td>
<td></td>
</tr>
<tr>
<td>50001 +</td>
<td>0.6</td>
<td>1.4</td>
<td>20.0</td>
<td>12.0</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>INCOME FROM OTHER SOURCES (Rs.)</th>
<th>AFFECTEES BY LAND SIZE</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt; 0.05</td>
<td>0.05 - 0.25</td>
<td>&gt; 0.25</td>
<td>TOTAL</td>
<td></td>
</tr>
<tr>
<td>&lt;= 5000</td>
<td>2.8</td>
<td>2.8</td>
<td>2.6</td>
<td>2.7</td>
<td></td>
</tr>
<tr>
<td>5001 - 10000</td>
<td>7.1</td>
<td>5.6</td>
<td>5.3</td>
<td>5.6</td>
<td></td>
</tr>
<tr>
<td>10001 - 15000</td>
<td>7.6</td>
<td>4.8</td>
<td>5.4</td>
<td>5.5</td>
<td></td>
</tr>
<tr>
<td>15001 - 20000</td>
<td>10.4</td>
<td>7.8</td>
<td>6.9</td>
<td>7.6</td>
<td></td>
</tr>
<tr>
<td>20001 - 25000</td>
<td>8.3</td>
<td>6.7</td>
<td>4.2</td>
<td>5.5</td>
<td></td>
</tr>
<tr>
<td>25001 - 50000</td>
<td>27.0</td>
<td>29.6</td>
<td>25.9</td>
<td>27.3</td>
<td></td>
</tr>
<tr>
<td>50001 +</td>
<td>36.9</td>
<td>42.4</td>
<td>49.7</td>
<td>45.7</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
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</table>
### Table 2.8

**Income of Affectees Losing All Land**

<table>
<thead>
<tr>
<th>INCOME FROM LAND TO BE ACQUIRED (Rs.)</th>
<th>AFFECTEES BY LAND SIZE</th>
<th>&lt; 0.05</th>
<th>0.05 - 0.25</th>
<th>&gt; 0.25</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;= 5000</td>
<td></td>
<td>83.9</td>
<td>69.8</td>
<td>17.9</td>
<td>42.9</td>
</tr>
<tr>
<td>5001 - 10000</td>
<td></td>
<td>4.3</td>
<td>18.1</td>
<td>16.6</td>
<td>15.6</td>
</tr>
<tr>
<td>10001 - 15000</td>
<td></td>
<td>2.5</td>
<td>7.8</td>
<td>9.3</td>
<td>8.0</td>
</tr>
<tr>
<td>15001 - 20000</td>
<td></td>
<td>1.8</td>
<td>0.1</td>
<td>14.3</td>
<td>8.1</td>
</tr>
<tr>
<td>20001 - 25000</td>
<td></td>
<td>0.0</td>
<td>1.0</td>
<td>6.6</td>
<td>4.0</td>
</tr>
<tr>
<td>25001 - 50000</td>
<td></td>
<td>7.5</td>
<td>1.7</td>
<td>15.3</td>
<td>9.9</td>
</tr>
<tr>
<td>50001 +</td>
<td></td>
<td>0.0</td>
<td>1.4</td>
<td>19.9</td>
<td>11.4</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>INCOME FROM OTHER SOURCES (Rs.)</th>
<th>AFFECTEES BY LAND SIZE</th>
<th>&lt; 0.05</th>
<th>0.05 - 0.25</th>
<th>&gt; 0.25</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;= 5000</td>
<td></td>
<td>12.8</td>
<td>2.5</td>
<td>4.2</td>
<td>4.9</td>
</tr>
<tr>
<td>5001 - 10000</td>
<td></td>
<td>7.1</td>
<td>8.2</td>
<td>6.1</td>
<td>7.0</td>
</tr>
<tr>
<td>10001 - 15000</td>
<td></td>
<td>15.1</td>
<td>10.6</td>
<td>5.8</td>
<td>8.9</td>
</tr>
<tr>
<td>15001 - 20000</td>
<td></td>
<td>7.4</td>
<td>11.7</td>
<td>6.2</td>
<td>8.3</td>
</tr>
<tr>
<td>20001 - 25000</td>
<td></td>
<td>5.4</td>
<td>11.0</td>
<td>14.0</td>
<td>11.7</td>
</tr>
<tr>
<td>25001 - 50000</td>
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<td>29.3</td>
<td>30.8</td>
<td>38.0</td>
<td>34.2</td>
</tr>
<tr>
<td>50001 +</td>
<td></td>
<td>23.0</td>
<td>25.3</td>
<td>25.6</td>
<td>25.1</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Number of affectees having a total income of less than Rs. 5,000 is 42.
<table>
<thead>
<tr>
<th>SR. NO.</th>
<th>DESCRIPTION</th>
<th>NUMBER</th>
</tr>
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<tbody>
<tr>
<td>1.</td>
<td>Tubewells</td>
<td>20</td>
</tr>
<tr>
<td>2.</td>
<td>Open wells</td>
<td>19</td>
</tr>
<tr>
<td>3.</td>
<td>Dera*</td>
<td>23</td>
</tr>
<tr>
<td>4.</td>
<td>Cattle shed</td>
<td>2</td>
</tr>
<tr>
<td>5.</td>
<td>Cattle farm</td>
<td>1</td>
</tr>
<tr>
<td>6.</td>
<td>Fish farm</td>
<td>1</td>
</tr>
<tr>
<td>7.</td>
<td>Mosque</td>
<td>3</td>
</tr>
<tr>
<td>8.</td>
<td>Poultry farm</td>
<td>2</td>
</tr>
<tr>
<td>9.</td>
<td>Graves</td>
<td>14</td>
</tr>
<tr>
<td>10.</td>
<td>Irrigation water course crossing</td>
<td>at 3 points</td>
</tr>
<tr>
<td>11.</td>
<td>Water diversion structures</td>
<td>2</td>
</tr>
</tbody>
</table>

* Structure in the field used during the day by farmers.
## TABLE 2.10
### ENTITLEMENT PACKAGES

<table>
<thead>
<tr>
<th>Sr No.</th>
<th>Type of Loss or Disturbance</th>
<th>Definition of Entitled Person (EP)</th>
<th>Definition of Entitlement</th>
<th>Additional Facilities/Services</th>
<th>Actions</th>
<th>Actors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Loss of privately-owned agricultural land</td>
<td>Owner of land as recorded in the Revenue Record, updated through the census survey and to be verified in accordance with legal requirements</td>
<td>1. Cash sum land compensation: - Cash compensation at full market value plus additional 15% of the value for compulsory acquisition. - Entitled to purchase same size of plot on irrigated spoil banks, but at baseline rate. The difference will enable EPs to maintain their standard of living during the transition period. 2. Blue work permits (one for each EP). 3. Landowners who are losing their entire land, and who have no other source of income will be given green work permits. This facility will be extended to all adult members of such affected families. 4. Project will provide tubewells on spoil banks, the proprietary rights of which will be transferred to TUAs along with the transfer of land rights on spoil banks to the TUAs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1. Access to a credit facility provided under IRDP in line with priorities fixed in accordance with the impact of the Project. 2. Vocational training and self-employment schemes under IRDP in line with priorities fixed as above. 3. Licence to cultivate the acquired land till such time that the land is required for construction. EPs will be notified about the date of this requirement before the start of the next sowing period. EPs will not be allowed to do any development on the land during the licence period. 4. Assistance in Tubewell Users Association (TUA) formation and operation. 5. Agricultural extension services for spoil banks. 6. Access to the interest on the deposit in joint account for repurchase of land on the spoil banks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1. Determination of market value for the land through a Land Valuation Committee (LVC) consisting of: - Assistant Commissioner (AC) of respective subdivision (Chairman) - WAPDA Representative (Grad 1) - PPGO Representative - Two representatives of EPs of the respective village. The representatives shall be EPs losing private land and nominated by other EPs losing private land. 2. Issuance of orders for the formation of LVC. 3. Updating of land records in respect of land classification and ownership as per census survey after legal verification. 4. Prompt payments within stipulated period. 5. Payment of compensation amount through crossed cheques into accounts of the EPs opened by mobile commercial banks. 6. Opening joint accounts in the name of each EP and WAPDA for the amount required for purchase of spoil bank land. The amount will remain deposited in the joint account till it is payable to WAPDA. 7. Issuance of Compensation Certificates to EPs. 8. Public Notice of awards to EPs to make process transparent. 9. Grievance resolution relating to entitlements. 10. Payment of stamp duty on purchase of land on spoil banks by WAPDA, if not exempted by Provincial Governments. 11. Provision of the guardianship certificate for minors prior to payment being released.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1. Overall management by: - LAC - AC, WAPDA, PPGO &amp; Representatives of EPs</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td>2. District Collector</td>
<td></td>
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<td></td>
<td>3. District Administration &amp; Project Resettlement Organisation (PRO), WAPDA</td>
<td></td>
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<td>4. Land Acquisition Collector (LAC)</td>
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<td></td>
<td>5. LAC, Commercial Banks &amp; EPs</td>
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<tr>
<td></td>
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<td></td>
<td>6. LAC, PRO &amp; EPs</td>
<td></td>
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<td></td>
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<td></td>
<td>7. PRO</td>
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<td>8. PRO</td>
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<td>9. PRO, PPGO &amp; LVC</td>
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<td></td>
<td>10. Provincial Governments &amp; WAPDA</td>
<td></td>
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<td></td>
<td>11. Guardians of minors, LAC &amp; PRO</td>
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<tr>
<td>SR. NO.</td>
<td>TYPE OF LOSS OR DISTURBANCE</td>
<td>DEFINITION OF ENTITLED PERSON (EP)</td>
<td>DEFINITION OF ENTITLEMENT</td>
<td>ADDITIONAL FACILITIES/ SERVICES</td>
<td>ACTIONS</td>
<td>ACTORS</td>
</tr>
<tr>
<td>---------</td>
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</tr>
</tbody>
</table>
| 1       | Barani land                 | Owner of land as recorded in the Revenue Record updated through the census survey and to be verified in accordance with legal requirements | 1. Cash cum land compensation  
   - Cash compensation at full market value plus additional 15% of the value for compulsory acquisition  
   - Entitled to purchase half size of plot on targeted spoil banks but at barani rate. The difference will enable EPs to maintain their standard of living during the transition period  
   2. Blue work permits (One for each EP)  
   3. Land owners who are losing their entire land, and who have no other sources of income will be given green work permit. This facility will be extended to all adult members of such affected families  
   4. Project will provide tubewells on spoil banks, the proprietary rights of which will be transferred to TUsAs along with the transfer of land rights on spoil banks to the TUA's members | 1. Access to a credit facility provided under IRDP in line with priorities fixed in accordance with the impact of the Project  
   2. Vocational training and self - employment schemes under IRDP in line with priorities fixed as above  
   3. Licence to cultivate the acquired land till such time that the land is required for construction. EPs will be notified about the date of this requirement before the start of the next sowing period. EPs will not be allowed to do any development on the land during the licence period  
   4. Assistance in TUA formation and operation  
   5. Agricultural extension services for spoil banks  
   6. Access to the interest on the deposit in joint account for repurchase of land on the spoil banks | Actions 1 through 16 as for Category IA above | 12. LAC, PRO & Commercial Banks  
13. Contractor, Project Consultants, PRO & Environmental Cell  
14. PRO, PNGO, Environmental Cell & EPs  
15. PRO, PNGO, Environmental Cell, EPs & Provincial Governments  
16. WAPDA, Technical Divisions, Provincial Departments of Agriculture and PNGO  
17. PRO, PNGO & Contractor  
18. PRO, PNGO & Commercial Banks |  
12. Assure payment cheques to woman owners are made out in their own name and deposited in their own accounts  
13. Ensure proper construction of spoil banks, top soil placement, grading, etc.  
14. Layout, demarcation and allotment of plot on spoil banks  
15. Siting and installation of tubewells, and formation of TUsAs  
16. Research into rapid achievement of agricultural production from spoil banks  
17. Issuance of work permit  
18. Access to training and credit |  
| 8       |                             |                                    |                           | 1. Accure payment cheques to woman owners are made out in their own name and deposited in their own accounts  
12. LAC, PRO & Commercial Banks  
13. Contractor, Project Consultants, PRO & Environmental Cell  
14. PRO, PNGO, Environmental Cell & EPs  
15. PRO, PNGO, Environmental Cell, EPs & Provincial Governments  
16. WAPDA, Technical Divisions, Provincial Departments of Agriculture and PNGO  
17. PRO, PNGO & Contractor  
18. PRO, PNGO & Commercial Banks |  

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Type of Loss or Disturbance</th>
<th>Definition of Entitled Person (EP)</th>
<th>Definition of Entitlement</th>
<th>Additional Facilities/Services</th>
<th>Actions</th>
<th>Actors</th>
</tr>
</thead>
<tbody>
<tr>
<td>II</td>
<td>Loss of privately owned uncultivable land</td>
<td>Owner of land as recorded in the Revenue Record updated through the census survey and to be verified in accordance with legal requirements</td>
<td>1. Cash compensation at full market value plus additional 15% of the value for compulsory acquisition. 2. Blue work permits (one for each EP).</td>
<td>1. Access to a credit facility provided under IRDP in line with priorities fixed in accordance with the impact of the Project. 2. Vocational training and self-employment schemes under IRDP in line with priorities fixed as above. 3. Provided that surplus land is available on the spoil banks, owners of uncultivable land will have the right to purchase land on spoil banks equal to one-quarter of their holding of uncultivable land.</td>
<td>Actions 1 to 7, 9, 11, 15 &amp; 16 as for Category IA above.</td>
<td>Actors for relevant actions as for Category IA above</td>
</tr>
<tr>
<td>III</td>
<td>Loss of Shamlat (common) land</td>
<td>As recorded in the Revenue Record</td>
<td>1. Cash compensation according to the share of owners in Shamlat.</td>
<td>None.</td>
<td>Actions 1 to 7, 9, 11, 15 &amp; 16 as for Category IA above.</td>
<td>Actors for relevant actions as for Category IA above</td>
</tr>
<tr>
<td>IV</td>
<td>Loss of crops, orchards and other trees</td>
<td>Land owners/tenants/renters as per Revenue Record updated through census survey and to be verified in accordance with legal requirements</td>
<td>1. Cash compensation, as provided under the law 2. If Shamlat land is cultivated, compensation will be paid to the cultivators.</td>
<td>None.</td>
<td>None.</td>
<td>1. LAC, LVC, 2. PRO &amp; Project Consultants</td>
</tr>
<tr>
<td>V</td>
<td>Loss of Agricultural Infrastructures (eg. tubewells, open wells, dikes, cattle sheds and farms, fish &amp; poultry farms, privately owned irrigation division structures, etc.)</td>
<td>Land owners/tenants/renters as appropriate</td>
<td>1. Replacement cost in cash.</td>
<td>None.</td>
<td>None.</td>
<td>1. LAC, LVC &amp; WAPDA Engineering Division</td>
</tr>
<tr>
<td>VI</td>
<td>Loss of residential house</td>
<td>A. Owner/occupant</td>
<td>1. Allotment of a plot equal to the plot on which the house is built (min. 500 sq m), provided to plot owner. 2. Allotment of a plot of 500 sq m to the occupant of the house, if different from owner.</td>
<td>1. Additional plot(s) of 500 sq m in the resettlement village for member(s) of the family of over 25 years of age sharing the present residence, up to a maximum of 1000 sq m for each house to be relocated.</td>
<td>Additional plot(s) of 500 sq m in the resettlement village for member(s) of the family of over 25 years of age sharing the present residence, up to a maximum of 1000 sq m for each house to be relocated.</td>
<td>1. Valuation by WAPDA Engineering Division. 2. LAC, LVC &amp; WAPDA Engineering Division</td>
</tr>
</tbody>
</table>

**TABLE 2.10**

**ENTITLEMENT PACKAGES**

**Sheet 3 of 4**
<table>
<thead>
<tr>
<th>SRL</th>
<th>TYPE OF LOSS OR DISTURBANCE</th>
<th>DEFINITION OF ENTITLED PERSON (EP)</th>
<th>DEFINITION OF ENTITLEMENT</th>
<th>ADDITIONAL FACILITIES/ SERVICES</th>
<th>ACTIONS</th>
<th>ACTORS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<tr>
<td>V.</td>
<td>Loss of public/community</td>
<td>Affected institution/community</td>
<td>3. Full replacement value to be paid in advance as installation for the construction of a house on the allotted plot paid to the owner of the house structure.</td>
<td>2. Occupant will have the right to salvage housing materials free of cost. 3. WAPDA will provide transport to move the family and its belongings.</td>
<td></td>
<td>2. LAC, PRO &amp; PNGO</td>
</tr>
<tr>
<td></td>
<td>Infrastructure</td>
<td></td>
<td>4. If occupant of house is different from the owner of the house structure, the occupant will be allotted a plot of 500 sq.m. and given credit facility for construction of a house.</td>
<td>2. Payments of instalments at appropriate times, in advance, after foundation completed, after walls completed and when roofing completed. 3. Evacuation to be completed prior to requirement of land for construction. If the structure is not completed in time by the EP, then WAPDA will shift the EP to rented accommodation at EP's cost.</td>
<td></td>
<td>3. PRO, PNGO &amp; WAPDA Engineering Division</td>
</tr>
<tr>
<td></td>
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<td></td>
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</tr>
<tr>
<td>VIII.</td>
<td>Fragmented land</td>
<td>Persons who are losing part of a contiguous landholding, and the residual fragments is smaller than 2 kanal</td>
<td>1. If desired by the EP, the residual fragment of the land will be acquired.</td>
<td>None.</td>
<td>1. Insure that the structures are timely relocated so that construction does not interrupt the relevant services to the community.</td>
<td>1. PRO, PNGO &amp; WAPDA Engineering Division</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>IX.</td>
<td>Severed land</td>
<td>Persons whose land is severed by the Project</td>
<td>1. As permissible under the Law.</td>
<td>None.</td>
<td>Same actions as for appropriate category of land being acquired.</td>
<td>Actors for relevant actions as for appropriate category of land being acquired</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>X.</td>
<td>Loss of Land Tenancy Rights</td>
<td>Legal tenants in accordance with updated Revenue Record</td>
<td>1. Right to part of the cash compensation for the land owner in accordance with the provisions of the Law. 2. Cash compensation for physical investments in land, including crops and trees. 3. Blue work permits (one for each EP).</td>
<td>1. Action to a credit facility provided under IRDP in line with their prioritized by the Project. 2. Vocational training and self-employment scheme (under IRDP in line with priorities fixed by the Project). 3. Provided that surplus land is available on the spoil banks, tenants with a residual tenancy of less than 0.5 ha will have the right to purchase land on spoil banks equal to one-half of the tenancy land acquired.</td>
<td>Actions 1 to 5, 7 to 10 as for Category IA above.</td>
<td>Actors for relevant actions as for Category IA above</td>
</tr>
</tbody>
</table>

**TABLE 2.10**

**ENTITLEMENT PACKAGES**
<table>
<thead>
<tr>
<th>SR. NO.</th>
<th>TYPE OF LOSS OR DISTURBANCE</th>
<th>DEFINITION OF ENTITLED PERSON</th>
<th>DEFINITION OF ENTITLEMENT</th>
<th>ADDITIONAL FACILITIES/ ACTIONS</th>
<th>ACTIONS</th>
<th>ACTORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>B. Informal tenants</td>
<td>Informal tenants as documented by the census survey</td>
<td>1. Greenwork permits will be provided to all adult members of the affected families. 2. Cash compensation for physical investments in land, including crops and trees.</td>
<td>1. Priority access to credit facility provided under RDP. 2. Vocational training and self-employment schemes under RDP on priority basis. 3. Provided that surplus land is available on the spoil banks, tenants with a residual tenancy of less than 0.5 ha will have the right to purchase land on spoil banks equal to one-half of the tenancy land acquired.</td>
<td>Actions 2, 10, 13 to 18 as for Category IA above.</td>
<td>Actors for relevant actions as for Category IA above</td>
</tr>
<tr>
<td>2</td>
<td>XI. Loss of Rental Rights (Jiradari)</td>
<td>Jirador as per contract</td>
<td>1. Right to part of the payment made to the landlord in accordance with the provisions of the Law. 2. Blue work permit.</td>
<td>1. Access to a credit facility provided under RDP in line with their priorities fixed in accordance with the impact of the Project. 2. Vocational training and self-employment schemes under RDP in line with priorities. 3. Provided that surplus land is available on the spoil banks, tenants with a residual tenancy of less than 0.5 ha will have the right to purchase land on spoil banks equal to one-half of the tenancy land acquired.</td>
<td>Actions 1 to 5, 7 to 18 as for Category IA above.</td>
<td>Actors for relevant actions as for Category IA above</td>
</tr>
<tr>
<td>3</td>
<td>XII. Loss of Employment</td>
<td>A. Permanent agricultural labour or family labour documented by census survey  B. Sessional Labourer</td>
<td>1. Greenwork permit. 2. Blue work permit.</td>
<td>1. Issuance of green work permits. 2. Access to training and credit. 3. Provided that surplus land is available on the spoil banks, tenants with a residual tenancy of less than 0.5 ha will have the right to purchase land on spoil banks equal to one-half of the tenancy land acquired.</td>
<td>1. Issuance of blue work permits. 2. Access to training and self-employment scheme under RDP.</td>
<td>1. PRO, PNGO &amp; Contractors 2. PRO, PNGO &amp; Commercial Banks</td>
</tr>
<tr>
<td>4</td>
<td>XIII. Loss of Fisheries</td>
<td>Formal and informal fishermen fishing in the Indus reach between barrage and confluence with Kabul river.</td>
<td>1. Recognising EP's fishing rights. WAPDA will issue permits for fishing at barrage pond and headponds.</td>
<td>1. Access to vocational training and self-employment scheme under RDP.</td>
<td>1. Issuance of blue work permits. 2. Access to training and self-employment schemes. 3. Provided that surplus land is available on the spoil banks, tenants with a residual tenancy of less than 0.5 ha will have the right to purchase land on spoil banks equal to one-half of the tenancy land acquired.</td>
<td>1. Directorates of Fisheries, WAPDA will prepare and implement fisheries development plan at barrage pond and headponds. 2. PRO, PNGO &amp; Commercial Banks</td>
</tr>
</tbody>
</table>

NOTES: Holders of green work permit will be given priority over those holding blue work permit, who in turn will have priority over non-permit holders. Holders of green work permit will be paid Rs. 500 per month until they find work.
<table>
<thead>
<tr>
<th>SCOPING SESSIONS HELD WITH</th>
<th>VENUE</th>
<th>DATE</th>
<th>TOTAL PARTICIPANTS</th>
<th>KEY PARTICIPANTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Civil Administration</td>
<td>Committee Room, GM Office, Tarbela</td>
<td>July 16, 1990</td>
<td>15</td>
<td>Deputy Commissioners of Abbottabad, Swabi and Attock</td>
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<tr>
<td>2. District Council, Abbottabad</td>
<td>District Council, Hall, Abbottabad</td>
<td>Nov. 13, 1990</td>
<td>10</td>
<td>Deputy Commissioner, Abbottabad, Chairman, District Council, Abbottabad, Councillor, Ghazi</td>
</tr>
<tr>
<td>3. District Council, Attock</td>
<td>District Council, Hall, Attock</td>
<td>Nov. 14, 1990</td>
<td>30</td>
<td>Deputy Commissioner, Attock, Chairman, District Council, Attock, Councillors of Ghurghusthi, Khagwani, Musa, Kamra, Thakarian, Male, Shah Dher and Rangpur</td>
</tr>
<tr>
<td>4. Local Population (Male)</td>
<td>Ila</td>
<td>Nov. 15, 1990</td>
<td>27</td>
<td>Chairman, Union Councils of Ghazi, Khagwani, Bhangi, Bahadur Khan and Kamra</td>
</tr>
<tr>
<td></td>
<td>Jallo</td>
<td>Nov. 17, 1990</td>
<td>23</td>
<td>Vice Chairman, Union Councils of Ghurghusthi, Khagwani, Ghazi and Rumanian, Members, Union Councils of Ghazi, Kotehra, Gazipur, Kamra, Salam Khan, Village Notables and Farmers</td>
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<tr>
<td></td>
<td>Mian Dheri</td>
<td>Nov. 20, 1990</td>
<td>12</td>
<td>Vice Chairman, Union Councils of Khagwani, Ghazi and Rumanian, Members, Union Councils of Ghazi, Kotehra, Gazipur, Kamra, Salam Khan, Village Notables and Farmers</td>
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<tr>
<td></td>
<td>Ghurghusthi</td>
<td>Nov. 20, 1990</td>
<td>54</td>
<td>Vice Chairman, Union Councils of Khagwani, Ghazi and Rumanian, Members, Union Councils of Ghazi, Kotehra, Gazipur, Kamra, Salam Khan, Village Notables and Farmers</td>
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<tr>
<td></td>
<td>Malak Mala</td>
<td>Nov. 21, 1990</td>
<td>26</td>
<td>Vice Chairman, Union Councils of Khagwani, Ghazi and Rumanian, Members, Union Councils of Ghazi, Kotehra, Gazipur, Kamra, Salam Khan, Village Notables and Farmers</td>
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<tr>
<td></td>
<td>Bhangi</td>
<td>Nov. 24, 1990</td>
<td>32</td>
<td>Vice Chairman, Union Councils of Khagwani, Ghazi and Rumanian, Members, Union Councils of Ghazi, Kotehra, Gazipur, Kamra, Salam Khan, Village Notables and Farmers</td>
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<tr>
<td></td>
<td>Khagwani</td>
<td>Nov. 25, 1990</td>
<td>18</td>
<td>Vice Chairman, Union Councils of Khagwani, Ghazi and Rumanian, Members, Union Councils of Ghazi, Kotehra, Gazipur, Kamra, Salam Khan, Village Notables and Farmers</td>
</tr>
<tr>
<td></td>
<td>Musa</td>
<td>Nov. 25, 1990</td>
<td>29</td>
<td>Vice Chairman, Union Councils of Khagwani, Ghazi and Rumanian, Members, Union Councils of Ghazi, Kotehra, Gazipur, Kamra, Salam Khan, Village Notables and Farmers</td>
</tr>
<tr>
<td></td>
<td>Bahadur Khan</td>
<td>Nov. 27, 1990</td>
<td>21</td>
<td>Vice Chairman, Union Councils of Khagwani, Ghazi and Rumanian, Members, Union Councils of Ghazi, Kotehra, Gazipur, Kamra, Salam Khan, Village Notables and Farmers</td>
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<tr>
<td></td>
<td>Kamra</td>
<td>Nov. 28, 1990</td>
<td>31</td>
<td>Vice Chairman, Union Councils of Khagwani, Ghazi and Rumanian, Members, Union Councils of Ghazi, Kotehra, Gazipur, Kamra, Salam Khan, Village Notables and Farmers</td>
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<tr>
<td></td>
<td>Ghazi</td>
<td>Nov. 29, 1990</td>
<td>52</td>
<td>Vice Chairman, Union Councils of Khagwani, Ghazi and Rumanian, Members, Union Councils of Ghazi, Kotehra, Gazipur, Kamra, Salam Khan, Village Notables and Farmers</td>
</tr>
<tr>
<td></td>
<td>Nurpur Karmalia</td>
<td>Dec. 02, 1990</td>
<td>43</td>
<td>Vice Chairman, Union Councils of Khagwani, Ghazi and Rumanian, Members, Union Councils of Ghazi, Kotehra, Gazipur, Kamra, Salam Khan, Village Notables and Farmers</td>
</tr>
<tr>
<td></td>
<td>Barotha</td>
<td>Dec. 02, 1990</td>
<td>107</td>
<td>Vice Chairman, Union Councils of Khagwani, Ghazi and Rumanian, Members, Union Councils of Ghazi, Kotehra, Gazipur, Kamra, Salam Khan, Village Notables and Farmers</td>
</tr>
<tr>
<td>5. Local Population (Female)</td>
<td>Ila</td>
<td>Nov. 15, 1990</td>
<td>23</td>
<td>Notable Ladies of the area, School Teachers</td>
</tr>
<tr>
<td></td>
<td>Jallo</td>
<td>Nov. 17, 1990</td>
<td>30</td>
<td>Notable Ladies of the area, School Teachers</td>
</tr>
<tr>
<td></td>
<td>Hasanpur</td>
<td>Nov. 18, 1990</td>
<td>91</td>
<td>Notable Ladies of the area, School Teachers</td>
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<tr>
<td></td>
<td>Ghurghusthi</td>
<td>Nov. 20, 1990</td>
<td>44</td>
<td>Notable Ladies of the area, School Teachers</td>
</tr>
<tr>
<td></td>
<td>Mian Dheri</td>
<td>Nov. 20, 1990</td>
<td>9</td>
<td>Notable Ladies of the area, School Teachers</td>
</tr>
<tr>
<td></td>
<td>Malak Mala</td>
<td>Nov. 21, 1990</td>
<td>9</td>
<td>Notable Ladies of the area, School Teachers</td>
</tr>
<tr>
<td></td>
<td>Barazai</td>
<td>Nov. 21, 1990</td>
<td>39</td>
<td>Notable Ladies of the area, School Teachers</td>
</tr>
<tr>
<td></td>
<td>Balaid</td>
<td>Nov. 24, 1990</td>
<td>15</td>
<td>Notable Ladies of the area, School Teachers</td>
</tr>
<tr>
<td></td>
<td>Khagwani</td>
<td>Nov. 25, 1990</td>
<td>17</td>
<td>Notable Ladies of the area, School Teachers</td>
</tr>
<tr>
<td></td>
<td>Musa</td>
<td>Nov. 25, 1990</td>
<td>17</td>
<td>Notable Ladies of the area, School Teachers</td>
</tr>
<tr>
<td></td>
<td>Jatial</td>
<td>Nov. 27, 1990</td>
<td>17</td>
<td>Notable Ladies of the area, School Teachers</td>
</tr>
<tr>
<td></td>
<td>Kamra</td>
<td>Nov. 28, 1990</td>
<td>23</td>
<td>Notable Ladies of the area, School Teachers</td>
</tr>
<tr>
<td></td>
<td>Nurpur Karmalia</td>
<td>Dec. 02, 1990</td>
<td>18</td>
<td>Notable Ladies of the area, School Teachers</td>
</tr>
<tr>
<td></td>
<td>Barotha</td>
<td>Dec. 02, 1990</td>
<td>12</td>
<td>Notable Ladies of the area, School Teachers</td>
</tr>
<tr>
<td>7. Speaker National Assembly</td>
<td>Committee Room, National Assembly</td>
<td>Mar. 13, 1991</td>
<td>5</td>
<td>Member National Assembly from Attock, Member National Assembly from Swabi, Members Provincial Assembly from Attock (2), Councillor, Ghurghusthi</td>
</tr>
<tr>
<td>8. Chief Minister, NWFP</td>
<td>Chief Minister's Secretariat, Peshawar</td>
<td>Feb. 16, 1992</td>
<td>10</td>
<td>Member National Assembly from Attock, Member National Assembly from Swabi, Members Provincial Assembly from Attock (2), Councillor, Ghurghusthi</td>
</tr>
<tr>
<td>9. International Union for Conservation of Nature and Natural Resources (IUCN/Pakistan)</td>
<td>IUCN Office at Karachi</td>
<td>Feb. 27, 1992</td>
<td>6</td>
<td>Programme Administrator</td>
</tr>
<tr>
<td>11. Sungi Development Foundation</td>
<td>Committee Room, GM Office, Tarbela</td>
<td>July 13, 1992</td>
<td>14</td>
<td>Programme Administrator (IUCN/Pakistan)</td>
</tr>
</tbody>
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TABLE 13.1

SCHEDULE FOR PROJECT IMPLEMENTATION AND RELATED RESETTLEMENT ACTIVITIES

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SCHEDULE FOR IMPLEMENTATION OF MITIGATION AND RESETTLEMENT ACTIONS

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<td>2. Relocation of Housing and Resettlement Villages/Transfer Arrangements</td>
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<td>3. Replacement and Relocation of Infrastructures</td>
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<td>4. Relocation of Graves and Mosques</td>
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<td>5. Development of Spoil Banks and Resettlement</td>
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<td>6. Supervision and Monitoring by Environmental Cell/Monitoring Consultants/PNGO/Environmental Panel</td>
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UNIT 1 First Unit Commissioned
> Contract Award
### TABLE 13.2

**SCHEDULE FOR PROJECT IMPLEMENTATION AND RELATED RESETTLEMENT ACTIVITIES**

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#### PROJECT IMPLEMENTATION SCHEDULE

1. Preparatory Work
2. Land Acquisition
3. Barrage
4. Power Channel
5. Power Complex

#### SCHEDULE FOR IMPLEMENTATION OF RESETTLEMENT ACTIVITIES

1. Staffing of PRO and training [Chp.3]
2. Formation of PNGO [Chp.3]
   a. Appoint PNGO
   b. Registration under Companies Act
   c. Establish PNGO Trust Fund
   d. Appoint and train PNGO staff
   e. Formation of Project field teams
   f. Information campaign for affected (scoping sessions, pamphlets)
3. Appointment of Monitoring Consultants [Chp.3]
4. Focused Census [Chp.5]
   a. Completion of Field Work
   b. Submission of Report
5. Report of Legal Task Force [Chp.6]
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8. Land/Housing Acquisition Issues [Chp.6]
   a. Notification of Section 4 [completed]
   b. Notification of Section 5
   c. Declaration of Section 6
   d. WAPDA deposits payment for land
   e. Formation of LVCs
   f. Awards Notified – Section 11

7. Compensation Awarded [Chp.2]
   a. Certificates of Compensation issued
   b. Cash Compensation Awarded
   c. Issuance of Licenses to PAPs to continue farming

8. WAPDA takes possession of land [Chp.6]

9. Resettlement Villages [Chp.11]
   a. Land acquisition under Section 17
   b. Layout on ground
   c. Infrastructure and facilities provided
   d. Housing construction – Barotha
      Ghazi, Banda Feroze
   e. Affectees resettled – Barotha
      Ghazi, Banda Feroze
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<td>10. Development of Spoil Banks and Resettlement</td>
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<td>d. Formation of Tubewell User Associations</td>
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<td>e. Transfer of Plots with Title and Deed</td>
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<td>f. Protection/salvage of cultural properties</td>
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**TABLE 13.2**
SCHEDULE FOR PROJECT IMPLEMENTATION AND RELATED RESETTLEMENT ACTIVITIES
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<td>c. Training of EPs for employment on Project</td>
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<td>Land Resources</td>
<td>Barrage</td>
<td>Land taking and conversion to Project structure</td>
<td>Land belongs to Government</td>
<td>Payments cross-checked by PNGO, with monitoring by PRO(SSB) WAPDA Environmental Cell (WEC) and Project Monitoring Consultants (MC)</td>
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<td>Power Channel</td>
<td>Conversion of 867 ha of land to Project use</td>
<td>Fair and prompt compensation</td>
<td>Monitoring by PRO WEC, MC &amp; PNGO</td>
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<td>Taking 1,640 ha for spoil disposal</td>
<td>Equitable purchase/resale arrangements, Prompt payment, Effective rehabilitation of spoil banks for irrigated agriculture</td>
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<td>Power Complex</td>
<td>Land taking and conversion of 850 ha to Project structures and 100 ha for colony and access road, Loss of trees, orchards and crops due to land taking and construction</td>
<td>Replacement with comparable irrigated land, Fair and prompt compensation</td>
<td>Monitoring by PNGO, WEC &amp; MC</td>
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<td>Social Cultural Resources</td>
<td>Replacement of communal bathing/laundry areas with scattered water points, depriving village women of a gathering place, Change in social dependency relationships due to more restricted access to water, Health problem due to impoundment at barrage pond, Rapid population growth in Ghazi-Khalo, due to Project &amp; river crossing; results in stressing community services and facilities, schools, health centres, etc</td>
<td>Seepage from Barrage to maintain constant flow in river channel on right bank for Gala and Pontia villages, Addition tubewell water points, if needed</td>
<td>PNGO to maintain communication with leading women to evaluate need for a meeting place and apprise WEC for necessary action</td>
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<td>Barrage</td>
<td>Water level fluctuation to control mosquito breeding, Development of a town plan for Ghazi-Khalo, Infrastructure development by local administration</td>
<td>PNGO should maintain contact with village poor to determine whether they have difficulty in obtaining water and apprise WEC for necessary action</td>
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<td>PNGO to meet periodically with local community leaders and administrators</td>
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<td>Power Channel</td>
<td>Regional and local loss of income from 867 ha of agricultural land</td>
<td>Resettlement on spoil banks; job opportunities to landless displaced persons</td>
<td>Organized by Project field teams; Monitoring by WEC, MC &amp; PNGO</td>
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<td>Temporary loss of agricultural production and income from lands</td>
<td>Resettlement of spoil banks</td>
<td>Monitoring by WEC &amp; MC</td>
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<td>receiving spoil</td>
<td>Hiring of farmers on Project labour force</td>
<td>Assistance by PNGO for reinvestment</td>
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<td>Threat to public safety due to risk of drowning</td>
<td>Investment of balance sale proceed</td>
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<td>Education programmes on dangers of channel; warning posters</td>
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<td>Fencing at villages, bridges, and other places where people are near the channel</td>
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<td>Escape assistance; handrails extending into water and floating booms</td>
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<td>Disruption of 110 scattered houses</td>
<td>Resettlement villages with social amenities and infrastructure</td>
<td>WEC to maintain contact with community leaders to learn of concerns through PNGO</td>
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<td>Disruption of archaeological sites, graves and mosque</td>
<td>Salvage/relocation provided</td>
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<td>Interruption of people &amp; livestock movements</td>
<td>46 crossings provided in 52 km</td>
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<td>Power Complex</td>
<td>Loss of agricultural production due to farmers hiring on with Project;</td>
<td>Planning assistance to families in managing new cash flow and altered resource base</td>
<td>Project field teams to monitor overall living conditions of affected families and apprise WEC</td>
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<td>may be offset by additional income</td>
<td>Credit and self-employment schemes</td>
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<td>Introduction of diseases by contact with workers from elsewhere or from poor treated sewage in Barotha nullah</td>
<td>Health checks for incoming workers</td>
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<td></td>
<td>Degradation of village lands by poor construction practices</td>
<td>Careful attention to wastewater management</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Friction between outside workers (or villagers working for the Project) and villagers following the traditional life style</td>
<td>Careful attention to construction methods, chemical disposal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project Area</td>
<td>General Project effect on economic resources</td>
<td>Formal and informal meetings between Project management staff, PNGO and village leaders; establishing a formal grievance channel</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social and Economic Resources</td>
<td>Loss of traditional categories of work</td>
<td>Formulation of Integrated Regional Development Plan (IRD) to organise credit and self-employment generation scheme; small industrial and business growth; long-term job growth</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Boom–bust cycle of Project construction</td>
<td>Urbanisation</td>
<td>Monitoring by WEC &amp; PRO with the assistance of PNGO and local communities</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
# TABLE 14.1

## RESETTLEMENT COSTS

<table>
<thead>
<tr>
<th>SR. NO.</th>
<th>COMPONENT</th>
<th>TOTAL COST</th>
<th>LOCAL (RS M)</th>
<th>FOREIGN (US$M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. LAND ACQUISITION (Privately-owned land)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Irrigated (107 ha)</td>
<td>126.86</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Barani (2,616 ha)</td>
<td>1,550.76</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Uncultivable (470 ha)</td>
<td>92.88</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Contingency Land (264 ha)</td>
<td>146.39</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Less resale of land on spoil banks (1,640 ha)</td>
<td>-845.38</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sub-Total</td>
<td>1,071.51</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. REPLACEMENT COST OF RESIDENTIAL HOUSES</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Type A houses (covered area 1,213 sq m)</td>
<td>4.85</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Type B houses (covered area 1,012 sq m)</td>
<td>3.24</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Type C houses (covered area 5,190 sq m)</td>
<td>12.46</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Type D houses (covered area 4,388 sq m)</td>
<td>7.02</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Sub-Total</td>
<td>27.57</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. REPLACEMENT COST OF PRIVATELY OWNED INFRASTRUCTURE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Irrigation tubewells (20)</td>
<td>1.40</td>
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</tr>
<tr>
<td></td>
<td>Open wells (19)</td>
<td>0.38</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Irrigation watercourses (3)</td>
<td>6.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Water diversion structures (2)</td>
<td>0.10</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Deras (23)</td>
<td>0.23</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cattle shed (2)</td>
<td>0.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cattle farm (1)</td>
<td>0.50</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fish farm (1)</td>
<td>0.50</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Poultry farm (2)</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sub-Total</td>
<td>10.12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. COMPENSATION FOR FARM PRODUCE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Crops</td>
<td>1.20</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Orchards</td>
<td>9.10</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other trees</td>
<td>20.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sub-Total</td>
<td>30.30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. RELOCATION OF COMMUNITY INFRASTRUCTURES</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Relocation of graves &amp; mosque</td>
<td>1.49</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Relocation of water supply system &amp; over head tanks</td>
<td>6.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Relocation of village roads</td>
<td>6.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sub-Total</td>
<td>13.49</td>
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</tbody>
</table>
# TABLE 14.1

## RESETTLEMENT COSTS

<table>
<thead>
<tr>
<th>SR. NO.</th>
<th>COMPONENT</th>
<th>TOTAL COST</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>LOCAL (RS M)</td>
</tr>
<tr>
<td>6.</td>
<td>COST OF RESETTLEMENT VILLAGES</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Development of Resettlement Villages</td>
<td>5.79</td>
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<tr>
<td></td>
<td>Social infrastructure for resettlement villages</td>
<td>2.76</td>
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<td>Sub-Total</td>
<td>8.55</td>
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<tr>
<td>7.</td>
<td>COST OF DEVELOPMENT OF SPOIL BANKS</td>
<td>60.36</td>
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<tr>
<td>8.</td>
<td>TRUST FUND FOR PNGO</td>
<td>100.00</td>
</tr>
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<td>9.</td>
<td>CONTRIBUTION TO INTEGRATED REGIONAL DEVELOPMENT PROGRAMME</td>
<td>176.00</td>
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<tr>
<td>10.</td>
<td>COST ASSOCIATED WITH WORK PERMITS</td>
<td>9.00</td>
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<tr>
<td>11.</td>
<td>COST OF STUDIES</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Integrated Regional Development Plan</td>
<td>2.00</td>
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<tr>
<td></td>
<td>Sewage and treatment facilities for Ghazi-Khalo</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>Town planning for Ghazi-Khalo</td>
<td>2.00</td>
</tr>
<tr>
<td></td>
<td>Pilot project for spoil banks</td>
<td>5.00</td>
</tr>
<tr>
<td></td>
<td>Sub-Total</td>
<td>10.00</td>
</tr>
<tr>
<td>12.</td>
<td>MONITORING COSTS</td>
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</tr>
<tr>
<td></td>
<td>Cost of Environmental Monitoring Cell (WAPDA)</td>
<td>9.00</td>
</tr>
<tr>
<td></td>
<td>Monitoring Consultants</td>
<td>18.00</td>
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<tr>
<td></td>
<td>Visits of Environmental Review Panel</td>
<td>5.00</td>
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<td></td>
<td>Sub-Total</td>
<td>32.00</td>
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<tr>
<td>13.</td>
<td>WAPDA – ADMINISTRATION COSTS (3%)</td>
<td>46.47</td>
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<tr>
<td>14.</td>
<td>CONTINGENCIES (5%)</td>
<td>79.77</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>1675.14</td>
</tr>
</tbody>
</table>

Note: Equivalent amount in US$ is 54.64 M with conversion rate of 1 US$ = Rs. 31.00.
BARRAGE
ALTERNATIVE SITES A TO E

DRAWING 7.1
POWER COMPLEX
ALTERNATIVE SITES

DRAWING 7.3