PAKISTAN WATER AND POWER DEVELOPMENT AUTHORITY

DASU HYDROPOWER PROJECT

SOCIAL AND RESETTLEMENT MANAGEMENT PLAN

VOLUME 2: SOCIOECONOMIC BASELINE AND IMPACT ASSESSMENTS

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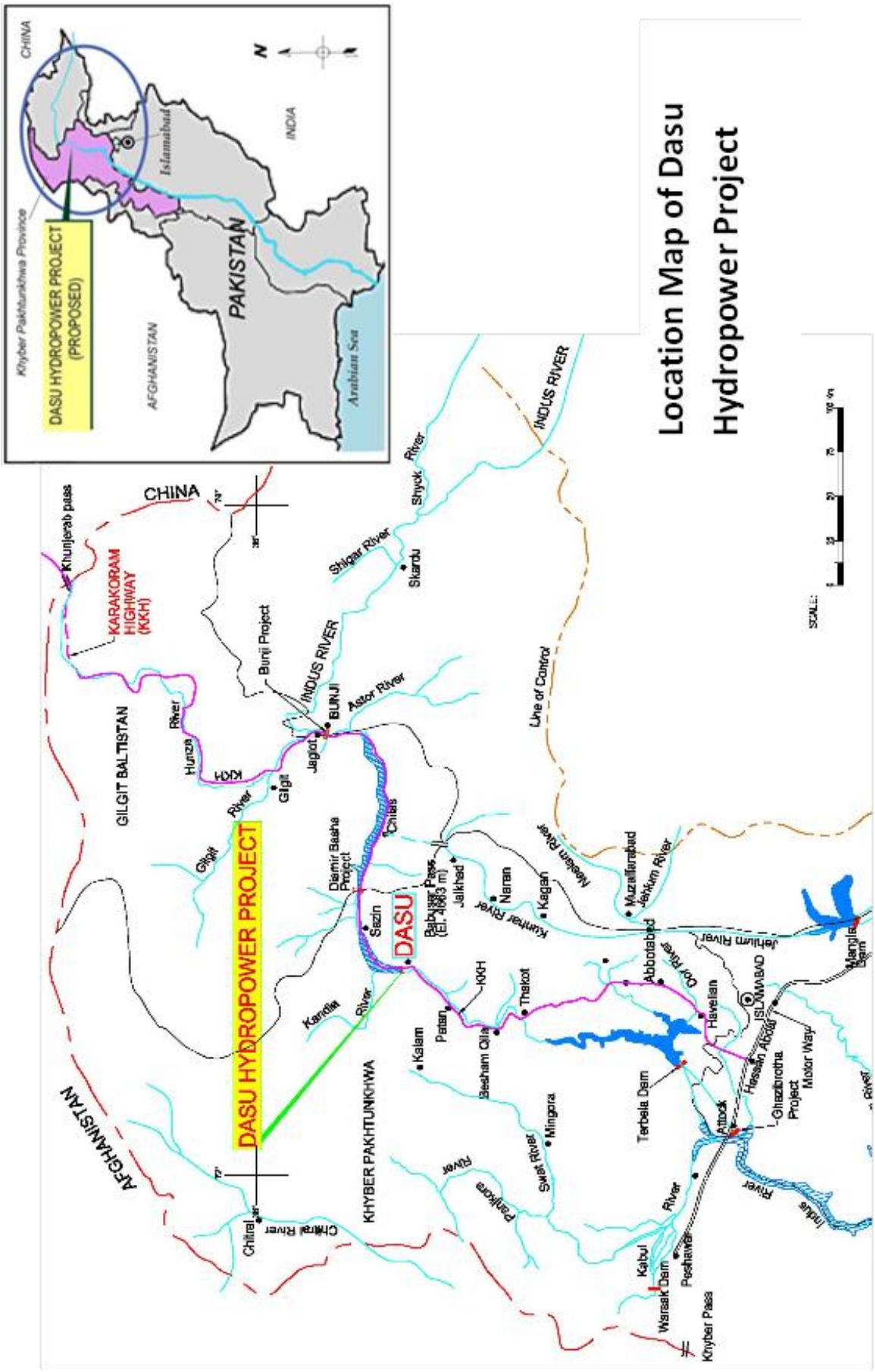
Location Map of Dasu
Hydropower Project
CHINA
INDIA
AFGHANISTAN
PAKISTAN
Arabian Sea
Islamabad
Khyber Pakhtunkhwa Province
DASU HYDROPOWER PROJECT
(PROPOSED)
DASU HYDROPOWER PROJECT
DASU
KHYBER PAKHTUNKHWA
GILGIT BALTISTAN
KARAKORAM
HIGHWAY
(KKH)
INDUS RIVER
Khunjerab pass
Shigar River
Shyok River
Skardu
Burji Project
BUNJI
Astor River
Jaglot
Gilgit
Hunza River
Chilas
Diamir Basha
Project
Sazin
Jalkhad
Naran
Kaghan
Kunhar River
Babusar Pass
(El. 4,173 m)
Muzaffarabad
Jehlum River
Mangla
Dam
Abbottabad
Dor River
Havelian
ISLAMABAD
Hasan Abdal
Motor Way
Ghazikhotha
Project
Tarbela Dam
Attock
Indus River
Kabul River
Peshawar
Warsak Dam
Khyber Pass
Chitral
Chitral River
Kandia River
Kalam
Patan
Besham Qila
Thakot
Mingora
Swat River
Line of Control
Neelum River
SCALE:

SOCIAL AND RESETTLEMENT MANAGEMENT PLAN
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ABBREVIATIONS

AAC	Additional Assistant Commissioner
AAM	Alternative Analysis Matrix
AH	Affected Household
CSC	Construction Supervision Consultants
C&W	Communication and Works Department of KPK
DC	Deputy Commissioner/Administrative Head of District
DD	Deputy Director
DHC	Dasu Hydropower Consultants
DMS	Detailed Measurement Survey
DPD	Deputy Project Director
EIA	Environmental Impact Assessment
EP	Entitled Person
EPA	Environmental Protection Agency
FGD	Focus Group Discussion
FHH	Female Headed Household
FRL	Full Reservoir Level
GAP	Gender Action Plan
GBHP	Ghazi Barotha Hydropower Project
GOP	Government of Islamic Republic of Pakistan
GRC	Grievance Redress Committee
GRP	Grievance Redress Plan
ICOLD	International Commission on Large Dams
IOL	Inventory of Losses
ILRP	Income and Livelihood Restoration Plan
KKH	Karakoram Highway
KPK	Khyber Pakhtunkhwa
LA	Land Acquisition
LAA	Land Acquisition Act
LAP	Land Acquisition Plan
LAR	Land Acquisition and Resettlement
LGO	Local Government Ordinance
LHV	Lady Health Visitors
LRW	Local Resettlement Workers
M&E	Monitoring and Evaluation
MDP	Mangla Dam Project
MDRP	Mangla Dam Raising Project
MIS	Management Information System
MOWP	Ministry of Water and Power
MPCI	Management Plan for Constructed-related Impacts
MPR	Monthly Progress Report
NARC	National Agriculture and Research Centre
NGO	Non- Governmental Organization
NRSP	National Rural Support Program
OP	Operational Policy
PAP	Project Affected Person
PATA/FATA	Provincially/Federally Administered Tribal Area
PCPP	Public Consultation and Participatory Plan
PCR	Physical Cultural Resources
PD	Project Director
PIC	Project Information Center
PKR	Pakistani Rupee
PMF	Probable Maximum Flood
IPOE	International Panel of Expert
PRO	Project Resettlement Office
PHAP	Public Health Action Plan
PMU	Project Management Unit headed by Project Director
PRA	Participatory Rapid Appraisal
RAP	Resettlement Action Plan

RCC	Roller Compact Concrete
RMU	Resettlement Monitoring Unit
R&R	Resettlement and Rehabilitation
SDF	Social Development Fund
SPT	Social Preparation Team
SRMP	Social and Resettlement Management Plan
TDP	Tarbela Dam Project
TGB	Target Group Beneficiaries
VH	Vulnerable Household
VC	Village Committee
WAPDA	Water and Power Development Authority
WCAP	Water Sector Capacity Building and Advisory Services Project
WB	World Bank

Units of Measurements

masl	Meter above Sea Level
MWh	Mega Watt Hour(Measuring Unit of Energy)
KWh	Kilo Watt Hour (Measuring Unit of Energy)
Ha	Hectares (Metric Unit of Area)
km	Kilometer (Unit of Length)
KW	Kilo Watt (Measuring Unit of Energy)

GLOSSARY OF TERMS

Affected Persons	Any person or household adversely affected by any project related change or changes in use of land, water or other natural resources, or the person/s who loses his/her/their asset or property movable or fixed, in full or in part including land, with or without displacement, after the commencement and during execution of a project.
Adequate	Enough to satisfy a need or meet a requirement.
Appropriate	Suitable for identified needs or requirements.
Baseline	A set of pre project conditions used as a basis for project.
Community	A group of individuals broader than the household, who identify themselves as a common unit due to recognized tribal social, religious, economic and traditional ties or a shared locality.
Comprehensive	All relevant components have been considered and addressed.
Compensation	Payment in cash or in kind for an asset or resource acquired or affected by the project.
Cultural Heritage	Attributes of a group or society that are inherited past generations, maintained in the present.
Customary Law	A law passed down through oral tradition, which has now been adopted by the community as *riwaj*(presently two different types of traditional laws operate in the project area with reference to use rights and management of natural resources).
Cut-off-Date	The date of start of census for all non-land related entitlements and for land, it is the date for announcement of Section 4 notification under the LA Act of 1894. Any person entering the project area after the cut-off date is not eligible to receive the agreed upon entitlements.
Directly Affected Area	The lands and settlements physically damaged due to construction of infrastructure and inundation after reservoir impounding.
Disclosure	Openly available for public.
Economic Displacement	A loss of productive assets or usage rights or livelihood capacities because such assets, rights or capacities are located in the directly affected area.
Entitlement Cut-off Date	Date notified by the concerned Civil Administration establishing a deadline for entitlement to compensation in the reservoir and dam construction area (later used term “Impact Area”). Upto and including that date, lands, structures and crops in the impact area are eligible for compensation and or resettlement assistance. Structures and crops established in the impact area after this cut-off date are not eligible for compensation and resettlement assistance.
Elderly	Persons over the age of 70 years (as per birth certificate).
Entitlement	Means the sum total of compensation and other assistance according to the status of each individual in impact area or related therewith and dependent thereon as assessed by the designated committee or any other such body.
Expert	A person who has a high degree of skills in or knowledge of certain subject and experience and or training in that subject.
Grievance Mechanism	This is a process by which PAPs can raise their concerns to project authority.
Hamlet	Locally refer to cluster of households, often related by kinship. Hamlets are small village settlement.
Head of household	The head of household according to *shariah*is principally the husband. In case the husband is dead or disabled, the widow / respective wife can act as ‘Head of Household’. Head of the household will deal with all land acquisition / resettlement affairs including getting cash compensation for land, houses and other lost properties and assets.
House	A place of residence for one or more households, including a

	number of residential and non-residential structures within premises along with any ancillary structures and nonagricultural land around.
Household	A group of persons living together who share the same cooking and eating facilities, and form a basic socio-economic and decision-making unit. One or more households often occupy a house.
Impact Area	The area which is directly affected by project activities.
Independent Reviewer	A person who reviews project documents but not employed by DHC.
Indigenous	Customary, cultural, economic, social or political institutions those are separate from the dominant society and culture.
Indirectly Affected Area	The lands, settlements and infrastructure, though not lying within the impact area to be affected by the project construction / operation activities, which could be affected in the form of: social disturbance; denial of public amenities (education, health, utilities); and disruption of access (roads, bridges) and communication linkages.
Involuntary Resettlement	The process of resettlement without informed consent of the displaced persons or if they give their consent without having the power to refuse resettlement.
Jirga	An assembly of elder men/notable to discuss and decide about economic / social / cultural affairs of a village or community including dispute resolution between individuals. Established traditional judicial practice in the project area.
Land Acquisition	Means the process whereby a person is compelled under eminent domain by a public agency to alienate all or part of the land he owns or possesses, to the ownership and possession of that agency, for public purpose in return for compensation.
Land Holding	The basic unit mostly occupied by one household, consisting of: house(s); side building(s); land; trees; and irrigation facilities.
Land Owner	Anyone among the potentially Project Affected Peoples area who has the legal title or physical possession of the parcels of residential / cultivated lands/land or is living as absentee landlord due to historic rights on these parcels.
Landless People(s)	People(s) of the project area that do not own any parcel of residential or cultivated land or other type of land, but have close attachments with the landowners or businessmen to work as daily or casual laborers for their day-to-day earnings.
Livelihood	Means of resources required for living.
Living standards	Access to well-being indicators to individual, group or nation such as health, education drinking water, sanitation, employment, nutrition, housing, transport, electricity etc.
Malik	Head of tribe/sub tribe responsible for dealing at village level with the matters of land; law and order; benefits of community and community conflict.
Management Plan	It is tool use for managing particular issues and establishes the way to solves them.
Market Value	The value of asset determined by market transaction of similar assets and finally arrived at with the stakeholders, after taking into account the depreciated value of tangible assets.
Mitigation	Relief of a negative impact.
Patwari	An official of the District Administration from District Revenue Office deputed at village level that is responsible for all land and revenue related matters.
Physical Displacement	A loss of residential and related non-residential structures including physical assets due to location in the project impact area.
Poor	Those who are under the nationally defined poverty line
Process	A chain of actions bringing about a result.
Project Area	Means the area specified by the Project Director to DC and notified in the official Gazette.

Project Affected Area	The associated area affected by project interventions.
Project-Affected Household	All members of a household, whether related or not, operating as a single economic unit, who are affected by the project.
Project Affected Persons (PAPs)	Are the peoples (households) adversely affected by any project related change or changes in use of land, water or other natural resources, or the person(s) who loses his/her/their asset or property movable or fixed, in full or in part including land, with or without displacement, after the commencement and during execution of a project.
Project Components	Project components include construction of right bank access roads RAR-01, RAR-02, RAR-03, construction of KKH-01 & KKH-02, project colony, disposal area, dam and quarry area, etc.
Project Resettlement Office (PRO)	WAPDA's organization responsible for implementation of the Resettlement Action Plan, including liaison with the related civil administration, affectees and other stake holders.
Relocation	Means physical movement to an alternate location of the assets and infrastructure permanently lost due to the project impact. It may include: houses; public service facilities; religious and other objects.
Replacement Cost	The amount of cash compensation determined on rate basis by District Collector after negotiation with affectees to replace the lost assets without taking into account any salvages value.
Reservoir	Any pond or lake used or created by project for the storage of water.
Resettlement Assistance	Support provided to the peoples who are physically displaced by a project, to enable smooth resettlement, including food, shelter, and social services. Assistance may also include cash allowances to compensate affected people for the inconvenience associated with resettlement at a new location.
Shariah	The Islamic Law as laid down in the Holy Quran and practiced by the Holy Prophet and his followers and covering all aspects of the human life.
Short-Term	Means day to day related.
Significant	Important with regard to impact.
Stakeholders	Include affected persons and communities, proponents, private businesses, NGOs, host communities, EPA's and other relevant local, provincial, federal departments and financing institutions.
Suitable	Appropriate for the desired purpose, condition or occasion.
Tehsil	Sub-district Administrative area/jurisdiction below a district (A district is divided into more than one tehsil).
Tenant	A farmer who cultivates land of others on rent under the following two arrangements: 1) yearly cash payment (Kalang); and 2) share-cropping of agriculture produce with the owner on the basis of mutually agreed ratio.
Transparent	Availability of product/documents to be reviewed to the public on demand.
Tribe	A group of people defined in terms of common caste, sub-caste, descent, territory and culture .A tribe is often divided into sub-tribe bond on territory of leadership.
Union Council	Lowest tier in a sub-district of elected local bodies and responsible for planning / managing affairs at a group of village and hamlets level.
Vulnerable groups	Vulnerable groups include the very poor, marginalized, informal settlers, *Gujars, Soniwals*, elderly and female-headed households.

SOCIOECONOMIC BASELINE AND IMPACT ASSESSMENTS

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EXECUTIVE SUMMARY

THE PROJECT AND BENEFITS

The proposed Dasu Hydropower Project (the Project) is a hydro development project planned under the WAPDA Vision 2025 programme. Hydropower will be generated through a run-of-river project, which means that water of the Indus river will be diverted to generate electricity and, downstream of the powerhouse, will be returned to the river. A dam will be constructed in the Indus River upstream of the city of Dasu creating a narrow reservoir, with average width of 365 m and extending some 74 km upstream from the dam. The area of the reservoir will be 23.85 km² at a maximum flood of 957 m. The Project inundation upstream will require relocation of 34 hamlets/villages from the right and left banks and 70 km of the existing Karakorum Highway (KKH) on the left bank of the Indus. Key features of the Project include: (i) main dam structure with a height of 242 m above foundation level; (ii) two diversion tunnels on the left bank; (iii) spillway consisting of eight bays with nine low-level outlets; (iv) four power-tunnels with an underground power house having 12 turbines; (v) tail race tunnels; and (vi) two coffer dams – one each in upstream and downstream.

According to the detailed design plan, the Project construction will be completed in two stages with four phases. Under Stage 1 (Phases I & II), Phase I is planned to commence operation in 2019 and Phase II in 2022. Phase III is anticipated to commence in 2031 and Phase IV by 2037. In view of the current energy crisis in Pakistan, the dam will provide significant relief with a generation capacity of 1,080 MW with the commissioning of the dam in 2019 and a final installed capacity of 4,320 MW by 2037. The Project intends to stimulate economic, social and regional development that will contribute to poverty reduction in the Project area and in the district of Kohistan.

OBJECTIVES AND METHODOLOGY

This report describes the current socioeconomic conditions in the Project area. It presents the baseline conditions and summarizes the social impact of the Project on the population and working and living conditions in the area. Finally the approach and methods designed for mitigating, minimizing or compensating potential Project impact and risks are presented. The baseline or the benchmark will form the basis for pre- and post-Project comparison and evaluation. The document also fulfills the requirements of the Pakistan Environmental Protection Act of 1997, World Bank Operational Policy 4.12 for Involuntary Resettlement as well as the Pakistan Land Acquisition Act, 1894.

Both primary and secondary data were collected to prepare the baseline study for the Project. Secondary data is based on the feasibility report of the Project, District Census Report, and data from concerned departments. However due to the remoteness of the Project area, social attitudes and difficult terrain, very limited secondary socioeconomic data was available.For collection of primary and secondary data both qualitative and quantitative methods were used. A total of 320 household heads from 34 villages (directly or indirectly affected) were interviewed, chosen using a random sampling technique, of which 27 were located upstream and seven downstream of the dam site. Out of the total 320 sampled households, more than 80 percent were directly affected households. A primary objective of the sampling was to cover all tribes and sub-tribes in the area. *Jirga* meetings were conducted at village and district levels prior to the baseline survey. The focus was on understanding the relevant issues through a more qualitative approach using multiple techniques such as focused group meetings, social mapping, interviews of select tribal/sub-tribal heads or *maliks*, meetings with local experts/officials, non-government organizations, and local civil society members. The prevailing cultural constraints meant it was not possible to interview women of the area, even with female interviewers. Therefore, male heads of households provided information on women and their work within households. This was, however, later supplemented by a gender survey conducted through Lady Health Visitors (LHV). This report also draws on other work

prepared under the Project, including additional studies and analyses to improve impact assessment and management of mitigation and social development.

SOCIOECONOMIC AND CULTURAL CHARACTERISTICS OF THE PROJECT AREA

The Project is located in the District of Kohistan in Khyber Pakhtunkhwa (KPK) province. Kohistan is predominantly mountainous. .The Indus River divides the district into two parts, referred to as Swat Kohistan (on the right bank) and Hazara Kohistan (on the left bank). Dasu is the district headquarters. The district is sparsely populated with only 63 persons per sq. km. The male to female ratio is 124 percent. Both literacy and enrolment rates are among the lowest in the country. According to the District Census Report 1998 only one-quarter of the population is active economically. Female labor force participation is less than one percent, but they are heavily engaged in activities such as terrace agriculture, growing vegetables for household consumption, rearing of poultry birds at household level, and collection of firewood for cooking and warmth. The 1998 Census placed Kohistan bottom in the country in terms of socioeconomic development indicators. The district enjoys a tax-free status in Pakistan. The main sources of livelihood are agriculture, livestock and collection of forest products.

Kohistanis are largely pastoralists. As a result, seasonal migration is very common in Kohistan for a variety of reasons, the main ones being climate and availability of resources such as land, water and fodder for their livestock at various elevations in the hills. . In winter people live near the river in their more permanent 'winter residences below 1,500m. Two agricultural crops are possible at this height but there is little suitable Terranceland available in the mountain slopes for farming. So farmers cultivate the higher level land (2,000- 2,500m); only one crop is possible here for climatic reasons. Here they build their "summer residence". The pastoralists herd their livestock in summer at higher altitudes (2,500-3,000meters) with "temporary shelters". They come down in winter with their cattle.

People in the Project area are divided along ethnic, religious and tribal lines. As a whole, Kohistan is a tribal district. There are several main tribes with numerous sub-tribes in the area. There is no land records system but tribal demarcation of territory is very distinct and people know each other's territories very well. Each tribe is headed by a *malik* (head). The *maliks* occupy the predominant position within Kohistan society. They hold ultimate authority within their own tribes, and are respected by wider society, including the local government administration. Indeed, the district administration often relies on help from the *maliks* and traditional decision-making bodies to achieve its objectives. The *maliks*, *ulemas* (religious leaders) and tribal elders are members of the local *jirga*, which is the main forum for collective decision-making for all matters in Kohistan - be it land disputes or religious/ ethnic conflicts, or inter-tribal disputes. Religious leaders also enjoy great respect and wield huge influence on local opinion in all matters. There prevails a sense of suspicion that outsiders, particularly NGOs, have a hidden agenda of social change detrimental to the religious and cultural practices and traditions prevailing in the area. As a result, there are instances of a strong resistance to NGOs in Kohistan.

Kohistan has a highly patriarchal society in which women are (almost) completely absent from public life. Publicly they are invisible. Girls and women have very limited or no opportunities to access education. They hardly have any say in decision-making, even within the household. Polygamy is the norm in Kohistani society: most men will have two or more wives and numerous children. *Purdah* (segregation of men and women, keeping women out of men's gaze) is very strictly observed. The restrictions on women mean that vital positions in the health and education sectors are not filled, with a corresponding negative effect on access of women to these services.

PROFILES OF SAMPLED VILLAGES

The sampled villages are very typical for the Project area. Most of them are small comprising less than 20 households. Of the 320 sampled households, 157 (49 percent) were on the right bank and 163 (51 percent) on the left bank of the river. Only one of the

320 households interviewed was female-headed (right bank). In terms of marital status, heads of 313 households (98 percent) were married, while six (1.88 percent) were single, and one (0.31 percent) a widow. On average, each household on both right and left banks comprises eight members.

There are four Basic Health Units (BHUs) on the right bank and aRural Health Centre on the left bank. In addition, there are three private clinics, a private maternity home, and seven medicine shops on the right bank. Also, on the right bank, there are six midwives, three homeopathic medicine practitioners, and a *hakeem* (traditional medicine man). The left bank has three medicine shops. Some of these health facilities are being affected by the Project.

In the 34 villages surveyed during the baseline study, there are 14 primary schools for boys, ten for girls; and two middle schools and two high schools for boys only. In addition, there are nine religious schools (*maktab* and *madrassa*). Most villagers use natural springs as the principal source for drinking water (ten villages on the right and 12 villages on the left bank), followed by water from *nullah* (tributary of the river). There are five water tanks, which are privately owned (four on the right and one on the left bank). Some of these educational institutions are being affected by the project.

A majority of the working-age population surveyed were without any gainful employment. Of those with gainful employment, 41 percent were employed in agriculture cultivating terraced plots. Women are also involved in agriculture, livestock raring, processing of walnuts and pine nuts. Only 8 percent of those with gainful employment were engaged in government services or in the private sector, while less than 5 percent were working in businesses. About 4 percent were employed by livestock owners to look after their herds, though very few were working as agricultural laborers. Around 8 percent were laborers engaged as daily wage earners. One third of the employed were engaged in other work which included ten *soniwal* households who are involved in sieving sand from the Indus river banks for gold: this is found in very low quantities.

PROJECT IMPACT AND MITIGATION

The Project will acquire close to 4,643 hectare (ha) of land to be used for various project components. The land belongs to 34 villages located on the right and left banks of the Indus River. Although there are no land records, lands are already divided between different tribes and sub-tribes with ownership rights. The Project impact areas have been categorized into 11 zones that include the reservoir area, dam site, KKH, camp site, Project colony, labor camps, dumping site, construction material site, access road, resettlement sites, and downstream site. The impact of land acquisition in the various zones and key social and resettlement issues are presented in Table 6.1. Overall, DHP will affect a total of 4,643 ha displacing 6,953 persons from 767 households. In general, the impact includes loss of land (residential and agricultural); structures (residential, commercial and communal); income and livelihoods (land owners, wage earners and *soniwals*). Moreover the Project will affect a total of 21,000 trees, seven schools, two Basic Health Units (BHUs), 31 mosques, one government rest house, ten micro hydropower power plants, six police check posts, one Frontier Works Organization (FWO) Camp, 14 ‘doly’ (cable cars), four mechanical cable cars to transport timber, and two water mills.

To mitigate these impacts, the affected households in local jirga meetings expressed their desires to be relocated above the 1,000m amsl on their own lands. . The relocation sites have already been identified by the Project in consultation with the affected communities. The sites will be developed at project costs where basic facilities like water, access road and mosques will be provided for affected households, in addition to cash compensation for lost assets. Nearly 90 percent of the affected households have opted for this option. Others opted for “self-managed” resettlement to“down country” to places like Manshera and Abbotabad with their compensation money. These individual decisions for slef managed resettlement are, among others, due to kinship, employment/business opportunities at the destinations. Due to absence of titles and

records as well as any land market in the tribal areas, loss of land will be compensated on a rate basis determined by the District Collector and negotiated with and approved by jirga. . All the affected public facilities such as schools and health units will be replaced. Furthermore an area development fund will be created which will be used for development activities such as access roads, water supply, electrification of villages and health facilities.

PUBLIC CONSULTATION AND DISCLOSURE

The public consultation and disclosure process in the Project has been guided by the requirements of the Government of Pakistan and the World Bank in order to make it a socially and environmentally compliant project. The overriding goal of the consultations has been to ensure the involvement of the stakeholders in the process and to take into account their feedback and desires in selecting the resettlement sites, determining the entitlement matrix, and in designing the social and environmental management plans to benefit affected persons, and appropriate remedial measures for Project impacts. More specifically, the objective in all consultations has been to:

- Ensure that stakeholder concerns are incorporated in Project design and planning;
- Increase public awareness and understanding of the Project through community and grand *jirga* meetings;
- Enhance positive and sustainable development initiatives by directly involving the affected people and communities in committees and decision-making processes.

This is further detailed in SRMP Vol. 3 Public Consultation and Participation Plan.

SOCIAL AND ENVIRONMENTAL MANAGEMENT PLANS

The DHP is one of the largest and most complex development projects in the Pakistan Water and Power Development Authority's (WAPDA) recent portfolio. As a result, WAPDA – the executing agency (EA) for the Project – has developed comprehensive social and environmental management plans available in two sets of documents, namely, (i) a 14-Volume Social and Resettlement Management Plan (SRMP), and (ii) an 8-Volume Environmental Management Action Plan (EMAP). Both are based on appropriate and extensive field investigations, workshops, *jirga* meetings and feedback from stakeholders. The documents comply with the social and environmental safeguard requirements of the Government of Pakistan and the World Bank. WAPDA is fully committed to ensure that all adverse impacts are minimized to the extent possible and to enhance Project benefits for the affected communities, including provisions for area development and community support programs in the Project area.

1 PROJECT INTRODUCTION

1.1 PURPOSE AND SCOPE

This report has been prepared to describe and assess the current socioeconomic conditions in the proposed Dasu Hydropower Project (the Project) area. It presents the baseline conditions, and then summarizes the social impact, and finally the approaches and methods designed for mitigating Project impact and risks. The baseline or the benchmark will form the basis for pre- and post-Project comparison and evaluation to assess the benefits of the Project.

The document also fulfills the requirements of the World Bank Operational Policy 4.12 on involuntary resettlement[1] as well as the Pakistan Environmental Protection Act of 1997. The report draws on work prepared under the Project, including additional studies and analyses to improve impact assessment and management of mitigation and social development.

1.2 PROJECT BACKGROUND

The power situation in Pakistan is critical with an estimated shortfall of 6,000 to 7,000 megawatts; long periods of 'load-shedding' are having adverse economic and social impacts across the country. To meet this shortfall, power generation from burning of fossil fuels is being expanded, which causes harm to the environment. Fossil fuels are non-renewable and will run out one day. Burning fossil fuels generates greenhouse gases and relying on them for energy generation is unsustainable. Hence, there is a need to find more renewable and sustainable ways of generating energy. The power crisis Pakistan is facing was avoidable.

There are some 13 hydroelectric facilities of varying sizes in Pakistan with installed capacity of 6,627 MW, all run by the Water and Power development Authority (WAPDA). This is far short of the potential endowed capacity of over 54,000 MW (around twice the current demand), most of which is located in Khyber Pakhtunkhwa (KPK) and the Gilgit-Baltistan. Failure to realize this potential and use indigenous power sources increases Pakistan's dependence on expensive imported fossil fuels. The major hydropower stations in Pakistan and their installed capacity are given in Table 1.1. Increasing sedimentation in the reservoirs is slowly reducing the installed capacity of these hydropower stations.

Table 1.1: Pakistan's Hydropower Capacity[2]

Hydropower Station	Installed capacity
Tarbela Dam	3,478 MW
Chasma	184 MW
Ghazi-Barotha	1,450 MW
Mangla Dam	1,000 MW
Warsak dam	243 MW
Various small hydro stations (combined)	89 MW

In the year 2000, the Pakistan Water and Power Development Authority (WAPDA) adopted a 25-year "Vision 2025 Program" to improve hydropower generation capacity to support the growing needs of the country for agro-industrial development. The Vision 2025 Program consists of short-term projects (2001 to 2006), medium-term projects (2006 to 2011) and long-term projects (2011 to 2025). Dasu Hydropower Project isincluded in the medium-term projects of the program. Construction of the Project will be

[1]World Bank OP 4.12 – Involuntary Resettlement, December 2004
[2] Michael Kugelman and Robert Hathaway, eds. *Running on Empty: Pakistan's Water Crisis*, (Woodrow Wilson International Centre for Scholars), p. 76.

one of the most important achievements of the Vision 2025 Program and the 2013 Power Policy of Pakistan.

1.3 KEY FEATURES OF THE PROJECT

The Project is proposed on the Indus River in Kohistan District in KPK.It is a run-of-the river Project, involving the construction of a dam in the Indus River, including associated hydraulic and electrical infrastructure. The dam axis is about 8 km upstream of Dasu Bridge, the administrative headquarters of Kohistan District. The project lies about 350 km north of Islamabad, the capital city, on the Karakorum Highway (KKH), the road link between Pakistan and China.

The Project Layout Plan (see Figure 1.1) includes the following permanent physical components to be constructed:

(i) Main dam structure (Roller Compacted Concrete type) with a height of 242 m above foundation level (maximum height);
(ii) Two diversion tunnels on the left bank (average 1.2 km length);
(iii) Spillway having eight bays with nine low-level outlets;
(iv) Four power-tunnels with underground powerhouse (left bank) with 12 turbines;
(v) Four tail race tunnels;
(vi) Two coffer dams (one upstream and one downstream of the dam).

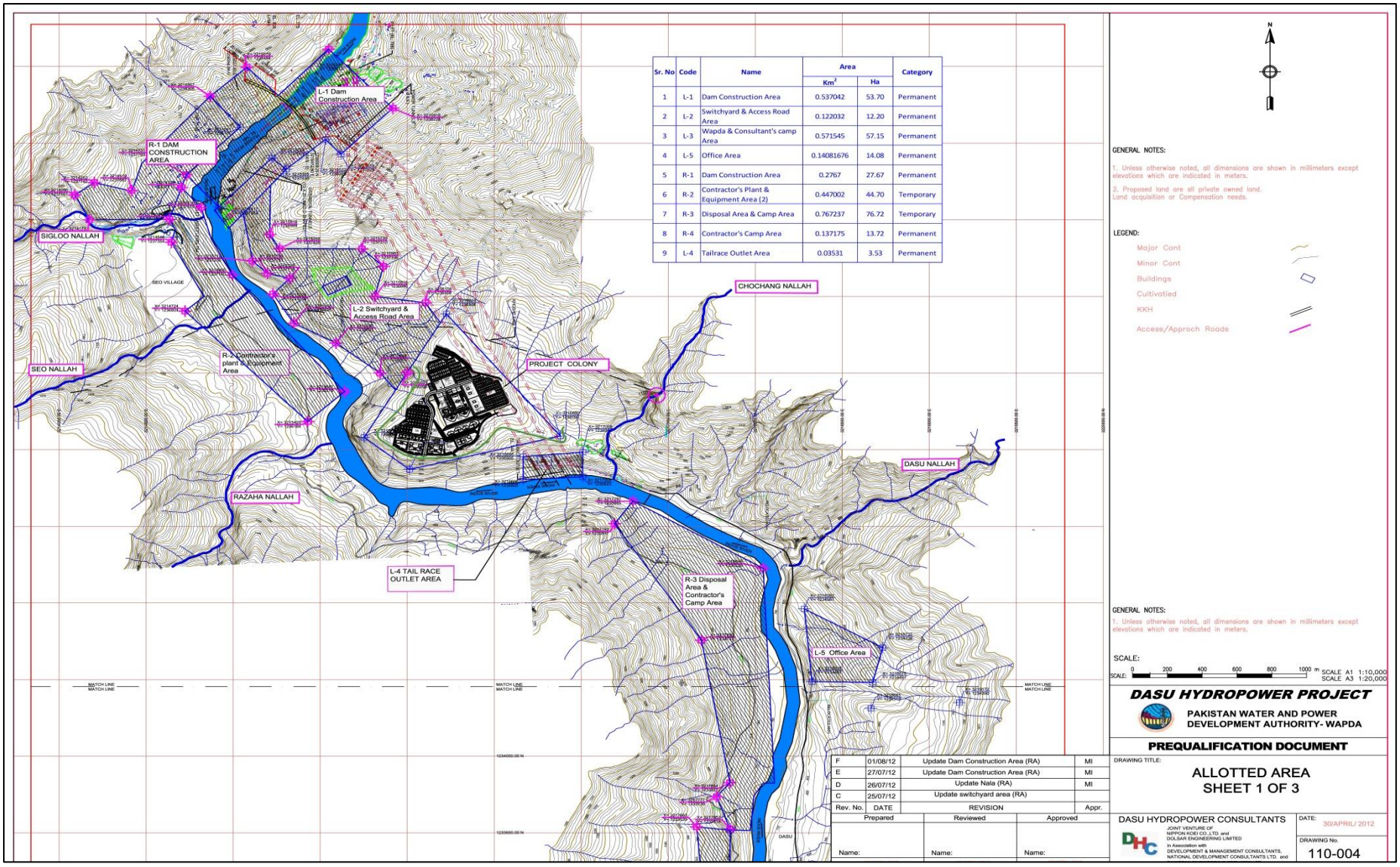
As a run-of-the river Project, the reservoir extension will reach maximally 74 km upstream of the dam flooding an area of 23.85 sq. km at a maximum flood level of 957 m above mean sea level (amsl).The average discharge at the dam site will be 2,068 cubic meters per second (cumecs). The water reservoir upstream of the dam will require the relocation of 68 km of the existing KKH on the left bank of the Indus. The access road to the dam site will follow the current route from KKH at Komila along the Seo road and contractor facilities will be on the left bank near Kaigah. Another important component of the project is the Transmission line from Dasu to Rawat with a total length of almost 300 km. Design of the transmission line is under preparation by NTDC which includes Social and Environment Safeguards[3].

1.4 PROJECT CONSTRUCTION AND OPERATION

According to the detailed design plan, the Project will be completed in four phases. Phase I will comprise of construction of the dam and installation of three of the planned twelve turbines. Phases II, III, and IV will involve installation of three more turbines each. For construction purposes, the four phases have been grouped into two stages. Under Stage 1 (Phases I and II), Phase I is planned to commence operation in 2019 and Phase II in 2022. Stage 2 includes Phases III and IV. Timings of the start of operations of phases II and IV are still undecided; tentatively, Phase III is anticipated to commence in 2031 and Phase IV by 2037. Once completed, the installed capacity of the Project would be 4,320 MW. The total Project investment is estimated at US$7 billion over a 20-year period.

The Project is expected to employ an estimated 12,100 workers over six years under Stage 1 (2014-2019). Between 2031 and 2037 (Stage 2), an estimated 1,500 workers will be required annually. In addition, for Operation and Maintenance (O & M) close to 1400 staff will be employed (WAPDA housing colony and offices).

[3] These documents have been submitted separately by NTDC to the World Bank



Sr. No	Code	Name	Area Km²	Area Ha	Category
1	L-1	Dam Construction Area	0.537042	53.70	Permanent
2	L-2	Switchyard & Access Road Area	0.122032	12.20	Permanent
3	L-3	Wapda & Consultant's camp Area	0.571545	57.15	Permanent
4	L-5	Office Area	0.14081676	14.08	Permanent
5	R-1	Dam Construction Area	0.2767	27.67	Permanent
6	R-2	Contractor's Plant & Equipment Area (2)	0.447002	44.70	Temporary
7	R-3	Disposal Area & Camp Area	0.767237	76.72	Temporary
8	R-4	Contractor's Camp Area	0.137175	13.72	Permanent
9	L-4	Tailrace Outlet Area	0.03531	3.53	Permanent

Rev. No.	DATE	REVISION	Appr.
F	01/08/12	Update Dam Construction Area (RA)	MI
E	27/07/12	Update Dam Construction Area (RA)	MI
D	26/07/12	Update Nala (RA)	MI
C	25/07/12	Update switchyard area (RA)	

Prepared	Reviewed	Approved
Name:	Name:	Name:

Figure 1.1: Project Layout Plan

1.5 RATIONALE AND PROJECT BENEFITS

The negative impact of Pakistan's energy crisis is all too apparent. It is manifested first and most obviously in the long periods of load shedding and power cuts experienced daily by millions of people in cities and villages. These power cuts have increased to 8-10 hours per day in urban areas, and even 20 hours per day in rural areas. But the impact of the energy crisis extends far beyond daily life. It affects schools, colleges, clinics and hospitals; it affects shops and businesses, reducing sales and revenue; and it affects industry, reducing production and productivity. It also deters investment. This means, on a macro level, reduced economic growth which translates into loss of livelihoods, jobs and income.

In view of the above situation, the Dasu Project will bring significant relief with a generation capacity of 1,080 MW with the commissioning of the Dam in 2019, and a final installed capacity of 4,320 MW by 2037. By 2037, Dasu will generate 18,000 GWh/annually. In term of revenue, the Project is expected to generate around $780m annually with the commissioning of Stage I in 2019 and $1.7 billion annually by 2037. In this respect, Dasu will contribute greatly to boost the Gross Domestic Product (GDP) of Pakistan. Further, the Project intends to use a share of the revenue to promote economic, social and regional development programs that will contribute to the reduction of poverty in the Project area and in the district of Kohistan. Other direct and indirect benefits of the Project are described in more detail under Chapter 6.

1.6 METHODOLOGY

The detailed technical design and sites selection for different Project components were initially done by the technical team of DHC. However later, following the social and resettlement surveys and consultation with communities, the technical design was adjusted to minimize the Project impacts. For preparation of SRMP different surveys were carried out from March 2012 to October 2012, and a livelihood impact assessment was conducted in December 2012. Technical assistance like GIS was also used for the preparation of the SRMP. Moreover some of the surveys, such as the resettlement inventory of assets, will be verified by the Detailed Measurement Survey (DMS) conducted by the District Collector; this is a legal requirement for assessment and valuation of lost assets.

Both primary and secondary data were collected to prepare the baseline and impact assessment study for the Project. Secondary data is based on the feasibility report of the Project, District Census Report, and data from concerned departments. However, due to the remoteness of the Project area, prevailing social attitudes and the difficult terrain, very little socioeconomic data on the area was available. To collect primary data both qualitative and quantitative methods were used. First, the Social/Project Team carried out a detailed analysis of secondary data sources to understand the demographic, social, economic, and ethnic/tribal characteristics of the Project area. Second, team members made initial exposure/reconnaissance visits to the Project site in September 2011, followed by *jirga* meetings convened by the Deputy Commissioner (DC) of Kohistan, village level consultation meetings, pre-testing of baseline questionnaires, establishment of field offices, recruitment of local investigators, and orientation and training of the investigators for baseline and other surveys for the Project. Third, for the baseline a sample of 320 directly and indirectly affected household heads from 34 villages were interviewed (see List of Heads of Households asAppendix-A), of which 28 are upstream villages to be directly affected and seven are downstream villages to be affected by the Project. The primary objective of the sampling was to cover all tribes and sub-tribes in the village. Due attention was paid to poor and vulnerable households in the selected villages. Table 1.2 shows the number of total HHs, affected HHs and sampled HHs in every affected village:

Table 1.2: Distribution of the Sampled HH by Villages

Sr. No.	Village Name	TotalHHs	Directly Affected HHs	Sampled HHs for Survey		
				Directly Affected	Indirectly Affected	Total
Right Bank						
1.	Komila	850	7	6	13	19
2.	Kass	70	1	1	4	5
3.	Rango/ Zal	80	1	1	7	8
4.	Seo	1500	6	6	13	19
5.	Siglo	109	109	8	0	8
6.	Melar	42	42	9	0	9
7.	Kuz Kai	80	14	12	5	17
8.	Kai Dogah	8	8	6	0	6
9.	Seer Gayal	56	56	10	0	10
10.	Kot Gal	32	32	5	0	5
11.	Warisabad	13	13	5	0	5
12.	Not Bail	6	6	2	0	2
13.	Thuti	90	40	6	3	9
14.	Sluch	24	24	11	0	11
15.	Doonder	7	7	6	0	6
16.	Gummo	19	19	5	0	5
17.	Cher Shial	8	8	7	0	7
Total of Right Bank		2,994	393	106	45	151
Left Bank						
1.	Chuchang	170	104	10	2	12
2.	Khoshi	85	4	4	6	10
3.	Logro	110		8	2	10
4.	Uchar Nullah	250	42	13	4	17
5.	Barseen	150	36	12	3	15
6.	Largani	9	9	5	0	5
7.	Kaigah	49	49	8	0	8
8.	Gul e Bagh/Maidan	45	8	5	2	7
9.	Pani Bah	82	18	8	2	10
10.	Gadeer	22	5	5	0	5
11.	Chalash	25	11	5	0	5
12.	Looter	200	11	10	3	13
13.	Shori Nullah	90	10	8	3	11
14.	Summer Nullah	200	8	7	2	9
15.	Lachi Nullah	15	7	6	2	8
16.	Sazin Camp.	6	6	6	0	6
17.	Shatial	60	24	14	4	18
Total of Left Bank		1,568	352	134	35	169
Grand Total		4,562	745	240	80	320

Source: Field Survey 2012, DHC

For social impact assessments, the focus was on understanding the relevant issues through a more qualitative approach using multiple techniques such as focused group meetings, social mapping, seasonality, interviews of select tribal/sub-tribal heads or

maliks, meetings with local experts/officials, non-government organizations, and local civil society members. Cultural constraints meant it was impossible to interview women of the area, even using female interviewers. Therefore, male heads of households provided information on women and their work within the households. This was, however, later supplemented by a gender survey conducted with the help of Lady Health Visitors (LHVs): a total of 250 women were interviewed from different affected villages. Finally, as indicated earlier, this report also draws on studies undertaken by the Project under the Social and Resettlement Management Plan (SRMP) to comply with safeguard policies and requirements. These are listed in Table 1.3.

Table 1.3: List of additional studies to prepare the Socioeconomic Baseline Report

SRMP Volume	Purpose of the Study
Vol. 3 Public Consultation and Participation Plan	Stakeholders consultation for Project design and engagements during implementation
Vol. 5 Resettlement Action Plan	Mitigations of the adverse impacts, including compensation and resettlement of the affected households and communities.
Vol. 6 Gender Action Plan	To mainstream gender issues in the project design and implementation.
Vol. 7 Public Health Action Plan	To mitigate adverse impacts on public health, including awareness building among the affected population about different diseases including sexually transmitted diseasessuch as HIV/AIDS.
Vol. 8 Management Plan for Construction-related Impacts	Plan to address and manage the in-migration pro-actively with counter measures to avoid and/or mitigate negative impacts associated with influx of migrants and outsiders to the project site.
Vol. 9 Grievances Redress Plan	Establishes procedures for filing any grievances or disputes on social and environmental safeguards and other entitlement and resolution of grievances. Four-tier Grievances Redress Committees (GRCs) to deal with grievances.

2 PROJECT AREA PROFILE

2.1 PROJECT AREA IN SOCIAL AND HISTORICAL CONTEXT

The District of Kohistan is part of Khyber Pakhtunkhwa (KPK) province. It is bounded to the north and northeast by Ghizer and Diamer Districts of Gilgit-Baltistan, to the southeast by Mansehra District, to the south by Battagram District, and to the west by Shangla and Swat districts of KPK. The total area of the District is 7,492 sq. km.

Kohistan is predominantly mountainous (the name means 'land of mountains'), but there is scattered agriculture on terraces in the relatively flatter areas. The Indus River divides the district into two parts, referred to as Swat Kohistan (on the right bank) and Hazara Kohistan (on the left bank). Swat Kohistan used to be administered by the Wali of Swat, while Hazara Kohistan used to be managed by the political *Tehsildar* of Oghi, and later by the political *Tehsildar* of Battagram. In 1976 the two parts were merged to form Kohistan District. Kohistan District comprises four *Tehsils* (sub division of a district and revenue unit): Dasu, Palas, Pattan and Kandia. Dasu is the district headquarters.

The main Valleys on the Swat Kohistan side are Bankhar, Dubair, Jijal, Pattan, Keyal, Seo, Raziqa, Kandia and Gabral, while on the left bank the main valleys are Darra, Madkhel, Batera, Kolai, Palas, Jalkot, Sumar, Sazin, Shatyal and Harban.

2.2 KOHISTAN DISTRICT – AN OVERVIEW

2.2.1 Population

According to the 1998 Census, the total population of Kohistan was 472,570 with an average annual growth rate of 0.09 percent (see Table 2.1). The male to female ratio was 124.4 (i.e. for every 100 females, there are 124.4 males). At the time of the 5th Population Census in 1998, Kohistan had three Tehsils, of which Dasu had the highest population with 184,746; Palas had 165,613; and Pattan 122,244. Population density was 63.1 people per sq. km. Both literacy and enrolment rates in Kohistan are among the lowest in the country. Only one-quarter of the population is active economically. The female labor force participation is less than 1 percent.

Table 2.1: Population Distribution in Kohistan

Population				
Social Indicators	**1998**			
	Total	**Rural**	**Male**	**Female**
Population	472,570	472,570	261,942	210,628
Annual Growth Rate (percent)	0.09	0.09	-	-
Life Expectancy	60 yrs.	-	-	-
Literacy Ratio (Percent)	11.01	11.01	17.23	2.95
Enrolment Ratio (Percent)	6.89	6.89	10.60	1.34
Under 10 Population Vaccination Ratios (%)	44.68	44.68	23.92	20.76
Labor Force Participation Ratios (%)	37.53	37.53	65.37	0.78
Economically Active Population Ratios (%)	24.55	24.55	43.90	0.49
Disabled Population Ratios (%)	1.05	1.05	0.58	0.47

Source: District Census Report, Kohistan, 1998

The 1998 Census reported the district's literacy rate among those aged 10 years and above, as 11.1 percent, but there were significant gender differences: male literacy was 17.23 percent and female literacy 2.95 percent. The total school enrolment rate was 6.89 percent (10.60 percent for males and 1.34 percent for females).

The 6th Population and Housing Census have been repeatedly postponed, but the House Listing Operation was carried out in April 2011. Preliminary results indicate that the population of Kohistan has increased from 472,579 to 2,093,320 (an increase of 343 percent), while the number of households went from 73,622 to 281,474 (an increase of

282 percent) with average household size 7.4, and annual population growth rate of 12.05.

2.2.2 Economy and Development

The 1998 Census placed Kohistan bottom in the country in terms of socioeconomic development indicators. The proportion of the population that was working and employed was 26.4 percent, equivalent to 70.53 percent of the total labor force. Of the total employed population, 71.60 percent were self-employed, 10.68 percent worked as employees and 17.32 percent were unpaid family helpers. For details see Table 2.2 below.

Table 2.2: Employment Status by Sex and Rural/Urban Areas, 1998

Employment Status	All Areas			Rural			Urban		
	Both Sex	Male	Female	Both Sex	Male	Female	Both Sex	Male	Female
Total	100	100	100	100	100	100	100	100	100
Self Employed	71.6	71.76	59.02	71.60	71.76	59.02	-	-	-
Employee (Govt.)	6.33	6.34	5.69	6.33	6.34	5.69	-	-	-
Employee (Autonomous)	0.27	0.28	-	0.27	0.28	-	-	-	-
Employee (Private)	4.08	4.07	4.92	4.08	4.07	4.92	-	-	-
Employer	0.39	0.40	-	0.39	0.40	-	-	-	-
Unpaid	17.32	17.15	3.38	17.32	17.15	3.38	-	-	-

Source: District Census Report, Kohistan, 1998

The main sources of livelihood are agriculture, livestock and collection of forest products. Given the mountainous terrain, flat cultivable land is very limited and there is a high degree of terrace agriculture. People usually keep livestock – goats, sheep, even cows and bullocks – and the search for pasture is one reason for the seasonal migration between low and high altitudes (see Table 2.3).

The seasonal migration of population and livestock, or transhumance, between low and high altitudes is closely tied to the extreme climatic conditions and the availability of resources, economy and way of life. Milk is generally used for home consumption but milk products, notably *ghee* (clarified butter) are sold. Honey is another source of income. People tend to depend for cash income on sale of forest products: timber (deodar, pine, and spruce), firewood, and walnuts, walnut bark (*dhandasa) and* pine nuts *(chalgoza)*. There is only one main road which connects Kohistan with the rest of the world, the Karakoram Highway (KKH). Commerce and trade is focused on cities and settlements along the KKH, such as Dubair, Pattan, Komila, Dasu and Shatial. In the winter season some local men go to larger urban areas outside Kohistan in search of work. With a rise in education and greater awareness, more people are seeking government employment.

Table 2.3: Livestock in Kohistan District

Sr.No.	Livestock	Number
1.	Cattle	169,357
2.	Buffalo	36,403
3.	Sheep	277,539
4.	Goat	786,242
5.	Camel	131
6.	Horse	6378
7.	Mule	17,923
8.	Ass	38,293
9.	Poultry	482,785

Source: District Census Report, Kohistan, 1998

3 SOCIO-CULTURAL VALUES AND NORMS

3.1 SOCIO-CULTURAL BOUNDARIES

People in the Project area are divided along ethnic, religious and tribal lines and maintain social "boundaries" in their daily interactions. The river has traditionally formed a strong physical barrier preventing interaction between the two sides. They also have a different history – the right bank was part of Swat, the left bank of Hazara – and speak different languages.Kohistani is spoken on the right bank, and Shina on the left; each side can understand the other, but not speak their language. Due to its having been ruled by the Wali of Swat, there is more education and development on the right bank than the left. The tribal system exists on both sides of the river, but is stronger and more organized on the right bank.The geo-social, ethnic, linguistic and religious characteristics are briefly presented in Table 3.1.

Table 3.1: Social and Cultural Characteristics

Characteristics	Social and Cultural Characteristic of the Affected People
Geo/Social Boundaries	Strong social and cultural distinctions made between right and left bank people
Ethnic/Tribal distinction	In the right bank, there are 11 major tribes (divided into 33 sub-tribes); left bank has 13 major tribes (divided into 38 sub-tribes)
Linguistic difference	Right bank use Kohistani while left bank use Shina
Religious difference	According to DCR 1998 more than 99 percent of the entire population is Muslim. Almost all the Muslim population belongs to the Sunni sect of Islam.

3.1.1 Tribal System and Leadership

Kohistan as a whole is a tribal district. There are several main tribes with numerous sub-tribes in the area. Tribal demarcation of territory is very distinct, and every household knows its territory and people are not allowed to cross into each other's territory. Each tribe is headed by a *malik* (head). The *maliks* occupy the predominant position within Kohistan society. They hold ultimate authority within their own tribes, and are respected by wider society, including the local government administration. The *maliks*, *ulemas* (religious leaders) and tribal elders are members of the local *jirga*, which is the main forum for collective decision-making for all matters Kohistani - be it land disputes or religious/ethnic conflict, or inter-tribal disputes.

Religious leaders also enjoy great respect and wield huge influence on local opinion in all matters. Unlike in other districts, religious leaders in Project area are powerful figures, with considerable property and manpower. They thus derive their authority not only from religion, but also from their strong socioeconomic standing. Legally the provincial government and district management is the ultimate authority. However, it sometimes uses *maliks* and traditional bodies to resolve administrative issues.

Each village has its own mosque and *pesh imam* (prayer leader). Local people will follow their *pesh imam*. On wider issues there will be tehsil or district level meetings of religious leaders to decide on a common position. The foremost official religious leader in Kohistan is the *imam* of the Jamia Masjid in Komila. Religious leaders do not confine themselves to religious issues, e.g. the Charter of Demands[4] was discussed in a Friday sermon at the Jamia Masjid, Komila.[5]

[4]A set of demands on behalf of the persons to be affected by the Project and approved by a grand*jirga* in Dasu District HQs
[5]Interview with local people at DHC field office, 17 Sept. 2012, Dasu

3.1.2 Contact with Outside World

The tribal people of the Project area consider themselves as substantially different from the majority of Pakistani population, especially with regard to ancestry. Religious leaders have a large influence on the local populace and the social set-up of the area. There prevails a sense of suspicion that outsiders, particularly NGOs, have a hidden agenda of social change detrimental to the religious and cultural practices and traditions prevailing in the area. Information disseminated through *imams* of the mosques is considered more reliable and acceptable. Due to the influence of religious leaders and the distance from other parts of the country, dissemination of daily general information is very limited. Electronic media such as television is still not generally accepted and newspapers are not readily available in the villages. The high illiteracy rate is a further reason for limited use of printed material.

3.2 VALUES AND NORMS

3.2.1 Religion

The Project area has a deeply conservative society, and religious values prevail. Religious fundamentalism has increased in recent years due to the increase in religious education and influence of religious leaders. It used to be a tradition at weddings and festive occasions to have music and singing, and to invite many guests (depending on one's financial capacity). Now those practices are seen as unIslamic: weddings are very simple affairs with only immediate kin and neighbors, one dish served and no music. In the past few years, two or three shops had opened in Komila Bazaar (right bank market) in which people could watch films on DVD players on the premises. These were forced to close down because religious leaders declared they were unIslamic and banned them. It was reported that Kohistan had local singers, poets, flutists and other musicians, but owing to the rise in religious fundamentalism, on ground these traditions have finished.[6]

There are no religious tensions within the local population because there is no *Shia* or other minority sects: all are followers of the Sunni sect. Moreover, conflicts found elsewhere between different schools of thought within Sunni'sm – notably between Deobandis and Barehlvis[7] – are also absent because the population is virtually 100 percent Deobandi. Kohistan has also remained immune to the religious militancy that has affected other parts of KPK and the Federally Administered Tribal Areas (FATA).

3.2.2 Role of Women

The Project area has a highly patriarchal society in which women are completely absent from public life. Females have very limited or no opportunities to access education. Publicly they are almost "invisible." They do not have any say in decision-making, even within the household. Kohistan was among the only districts in Pakistan not to field any female councilors for the local government system introduced through the Local Government Ordinance (LGO) 2001, in which 33 percent of all local government seats were reserved for women.

Purdah[8]is very strictly observed. The role of women is as wives and mothers; they also carry out the majority of household and agricultural chores – cooking, washing, cleaning, collecting firewood, looking after livestock and working in the fields. The latter tasks are

[6]Interview with a resident of the right bank, 19 Sept, 2012, Dasu

[7] Both Deobandis and Barehlvis trace their origins to India. While both are part of the Sunni sect, their approach to Islam and religious practice is very different. Deobandis are close to the 'puritan' Wahabi movement, and lay stress on following the Quran and Sunnah, and establishing a direct link with God. The Barehlvi movement/sect, by contrast, is close to Sufism and its practices include: commemorating the Prophet's birthday; use of devotional music; visiting shrines of the Prophet, his companions and 'saints'; asking 'saints' to intercede on behalf of the living with God.

[8]Purdah is the practice of segregation of women from men, to prevent men being attracted to them. This generally means both women wearing dress that does not reveal any part of their body or face, and them being kept physically separate from men.

undertaken within the confines of *purdah*: areas of the forest, for example, are designated for women and no men will go there.

Polygamy is the norm in the Project area: most men will have two or more wives and numerous children. The first wife is typically from within the family/sub-tribe, usually a first cousin. But increasingly, those with the means will have second or third wives from Swat or Gilgit. They consider the women there to be 'cleaner' and more refined and educated than their local women. These outside women will often be kept in better rooms and living conditions than local wives. The permission of previous wives is never sought before taking on new wives.

There has been some modernization. Traditional Kohistani dress for women comprised of a *shalwar* (trousers) with a waist of 14 yards, a *kameez* (shirt) made of 12 yards of fabric.Now women wear less cumbersome clothes, and the concept of 'matching clothes' has taken root among the young. But men still make every effort to prevent their women being influenced by the outside world. Televisions and dish antennae have become more common in the district, but these tend to be kept in rooms where only males have access – in most households women are not allowed to watch television.

In his May 2012 sermon, a powerful *a'lam* referred to NGOs and stressed, 'We won't let them influence our women in the name of empowerment and financial support.' He also explicitly ruled out education and employment for women, telling reporters: 'I issued a decree during Friday sermon that getting education for degrees by women is repugnant to Islamic injunctions because if a woman gets degree, she may use it for job, an act which Islam doesn't allow in absence of *mehram* (close relatives).'[9]

The restrictions on women mean that vital positions in the health and education sectors are not filled, with a corresponding negative effect on women's access to these services. Kohistan has some Lady Health Visitors (LHVs), but the overwhelming majority is non-locals (e.g. from Mansehra) and they can only operate out of Basic Health Units: they cannot go to women in their homes. There are currently around 20 Lady Health Workers (LHWs) on the payroll, but these cannot do any field work because of the strict *purdah* requirements for women. They are effectively drawing a salary for doing nothing.[10] A similar situation prevails in the education sector.

3.2.3 Honor or *Izzat*

Concepts of honor and respect are very strong in the Project area, consistent with the Pakhtun creed of *Pakhtunwali*, which revolves around '*zan*, *zar* and *zamin' (*women, gold/wealth and land*)*. Issues of *ana* (ego/respect) take priority over everything else. If someone is insulted or dishonored, he will not forget it up til his death and will look for revenge in one way or the other.

There is widespread consensus among local people that in so-called honor cases the only outcome is death: both the woman and man involved will be killed. As long as both partners are killed, there is no danger of conflict arising between the two tribes/sub-tribes/families involved.[11] Honor killings are never reported, but where they find out about such cases, the police themselves become complainants and register cases.

Also consistent with Pakhtun tradition, people from Kohistan are generally very hospitable. During the field survey for the Project, it was observed that every person in a village wanted to host team members in his house. Every person would want to serve them with tea or a meal, and would insist on their guests having something. A gentleman from Multan reported that he come to Siglo (Kohistan) 10-12 years back to purchase livestock. He was so impressed by the local hospitality that for the last 10-12 years he

[9] 'Forced marriage threat made to NGO women', *Dawn,* 6 May 2012.
[10] Interview with DHO, Dasu, 19 Sept. 2012.
[11] Interview with a senior local official, 18 Sept. 2012, Dasu

regularly comes to Siglo and Razika for the month of Ramzan. He stays with local people and eats with them without having to make any payment.[12]

3.2.4 Culture of Arms and Violence

The sense of honor, combined with a culture of having arms, contribute to a sense of endemic violence in the district. One *malik* related that a dispute over land with a tribe from another village had led to a total of six killings, three from each side, including the *malik*'s own father, paternal uncle and a cousin.[13] Several others had been injured on each side, and his tribe had burnt some houses belonging to their rivals. The dispute, which dated back to 1974, was eventually resolved through a *jirga* in 2001.

The practice of carrying arms has declined in recent years, with a subsequent significant drop in the numbers of people killed/injured in armed clashes. The extent to which the situation has changed can be gauged from the following: 'Before, someone who didn't have a rifle on his shoulder was not considered a man. Now if someone carries a rifle around, others call him mad.' Estimates of the number of people killed (reported cases/those registered by the police as complainants) range from around 15 to 25 since January 2012 (up to September 2012).[14] One *malik* reported an 80 percent reduction in killings/shootings compared to the past. Similarly a policeman reported that there used to be 25-30 killings each year in Palas; that figure is now down to around five.[15] In Kandia there are far less killings and there is now mixing between members of different tribes. The change has come about because of education and development, employment opportunities, and a growing realization that conflict and enmities cause loss of life/injury, huge expense, force people to be uprooted from their homes and families, and have a negative impact on wives and children. It should be noted that the culture of arms or violence prevails within Kohistani society; it does not typically extend to outsiders unless situations aggravate.

3.2.5 Conflict Resolution

There are a number of traditional methods of conflict resolution. By far the most common is mediation by the *malik* – for disputes within the same sub-tribe – or by the local, village or higher level *jirgas*, for bigger disputes or those between different sub-tribes or tribes. Cases can be registered in the courts, but often eventually end up being resolved through the *jirga* system. However, it is common for *jirga* decisions to be presented to the court and formally documented there. Where a dispute is between two parties and cannot be resolved by a *jirga* of their own tribesmen, an outside neutral ('third party') *jirga* could be called in. If the dispute is between two tribes or sub-tribes on the left bank, for example, a neutral *jirga* will be called in from the right bank and vice versa. A second conflict resolution mechanism used in Kohistan, should the *jirga* system fail, is according to *Shariah*. Disputing parties go to an *a'lam* (religious leader) and submit their statements; the *a'lam* then gives his judgment on the case.

According to the police,[16] the *jirga* system can resolve the most difficult cases, even murder cases. The DC reported that he uses the *jirga* system to resolve law and order situations; the same system had even been used to persuade wanted fugitives to give themselves up to the police. 'The *jirga* system is strong and that makes the government strong.' He cited the number of court cases in Kohistan to demonstrate the effectiveness of the *jirga* system in resolving disputes and maintaining order. In comparison with Kohat district, where criminal and civil judges have caseloads running into the hundreds, Kohistan has just one senior civil judge who handles approximately 40-50 cases per month. Overall, the security situation in Kohistan is normal; during the study period no case was reported of theft, robbery or stealing of any goods in the Project area. .

[12] Discussion with Nazir Ahmad (from Multan), 10 August 2012
[13] Interview with a local *malik,* 19 Sept. 2012, Dasu
[14] Interviews with a local officer, 18 Sept. 2012, Dasu
[15] Interview with local Constable, 17 Sept. 2012, Dasu
[16] Interview with DSP, 18 Sept. 2012, Dasu

Crime levels – other than killings/shootings due to enmity/disputes – are negligible in Kohistan. There is no theft; there are no robberies in the district. This is due to the tribal structure of society, the maintenance of order through the *jirga* system, and the fact that there is only one main road into and out of the region.

3.3 ISSUES WITH NGOs

There are several international non-governmental organizations (INGOs) and local NGOs operating in Kohistan district. INGOs include Church World Services (CWS), Catholic Relief Services (CRS), the German Red Cross (GRC) and Welt HungerHilfe (WHH). Of these GRC is the only one operating in the Project area. Local NGOs working in the Project area include the Sarhad Rural Support Programme (SRSP), Social Awareness and Development Organization (SADO) and the Pakistan Red Crescent Society. SRSP works on water and sanitation (WATSAN) and livelihood issues while the others work on these, as well as health and nutrition and education.

There was strong resistance initially to NGOs working in Kohistan. In 2004 an irrigation-water project, implemented through the Communication and Works (C&W) Department was due to start. All activities – by both male and female NGO personnel - were blocked by the local *ulema*. A district level *ulema* conference was then convened to explain the benefits of the project, e.g. improving water supply in the target areas. This led to male NGO staff being allowed to work in Kohistan but not females. However, female government employees in the health and education sectors were given permission to work. In 2007 it was agreed that female NGO staff could work in Kohistan as long as they observed *purdah* (were properly covered) and were accompanied by a *mehram*.[17] In June 2012, local *Ulema* banned all NGOs from working in Kohistan due to perceived violations of local norms and customs.

3.4 LINKS BETWEEN DEVELOPMENT, POVERTY AND CONFLICT IN DASU

The relationship between poverty, conflict and development was examined in greater details and presented in Appendix B.The report discusses that in general, poverty increases the likelihood of conflict. The impact of conflict is such that it undermines economic growth, leading to increased poverty. Development, if carried out properly, can help reduce poverty and break the vicious cycle of conflict. Promotion of development has to be an inherent part of conflict reduction/peace building efforts if these are to have a sustainable impact.

Analysis of the the issues in the context of Kohistan District also reveals a clear nexus between between poverty/under-development and conflict in Kohistan. Poverty levels in Kohistan are high; the 1998 Census placed the district bottom in the country in terms of socioeconomic development. Literacy rates are extremely low – virtually zero among females; access to basic services like health and education is very limited.

During field research for this report, numerous local people explained the high incidence of killings/shootings as due to men 'having no jobs and nothing to do'. Others specifically pointed to lack of education as a reason for the violence.

[17] Close male relative: father, uncle, brother, husband, son. If not the husband, the *mehram* must be someone with whom it is not possible for the woman to marry/have sexual relations. A male cousin would thus not constitute an acceptable *mehram*.

4 LAND TENURE, SETTLEMENTS AND MIGRATION PATTERNS

4.1 LAND TENURE SYSTEM

Land is communally owned in the Project area. Until recently, land was not permanently allotted to any individuals or tribes. There was a system of rotation every five to ten years. After 1960, the local tribes decided to allot lands to individual household on a customary rights basis, which is respected as titles by the community. In the Project area, there are no cadastral maps or land titles. Therefore, for compensation purposes the land acquisition officials have to prepare maps and titles to be approved by *jirga* meetings. Since the area is mountainous, there is a scarcity of agricultural land. Ninety-five percent of land is uncultivable consisting of forest area and waste land/not available for cultivation. Only terraces are available at different elevations for cultivation. Other than agriculture the main income earning activities in the area are livestock, forest and forest products, business, government/other jobs. In the Project area some people also extract gold from sand along the Indus River.

Table 4.1: Land Use Pattern of Kohistan District

Sr. No.	Land Use	Area(Hectares)	% of the Total
1.	Total Area	306,805	100
2.	Cultivated Area	14,872	5
	(i) Net sown area	11,678	-
	(ii) Current fallow	3,194	-
3.	Un-cultivated area	291,933	95
	(i) Cultivable waste	47,450	-
	(ii) Forest area	87,697	-
	(iii) Not available for cultivation	156,786	-

Source: 1998 District Census Report

There is very little flat or gently sloping land and most cultivation is carried out on leveled terraces. Arable land is a very scarce resource for the hill tribes. This means that disputes over land and forests, and even water (streams) are common issues in Kohistan. Some of these disputes can continue for years. For example, a dispute over land between Khoshi and Logro, two villages in Hazara Kohistan, has been going on for decades. Similarly, a land dispute in Barseen on the left bank, between two sub-tribes dates back over forty years. A *jirga* tried to resolve the dispute; it awarded the land to one party but the other rejected the decision and took the case to court. Over the course of 20-25 years the case has reached the High Court in Abbottabad. It has still not been resolved.

Water streams, ponds and so on are generally divided among tribes/sub-tribes/families and everyone knows who owns what. But sometimes conflicts arise over these, particularly between different tribes/sub-tribes. In May 2012 a dispute over ownership of a water reservoir in Palas between Narng Shah Khail and Badakhail tribesmen, led to one man being killed and his father and two brothers critically wounded. The men from the Badakhail tribe were attacked in their home in the Palas area. In 2011 four people were killed and three injured when tribesmen exchanged heavy fire over the same dispute.

4.1.1 Agriculture and Local Irrigation Systems

Despite the scarcity of cultivable land in the district, people practice agriculture wherever it is possible. Agriculture is mostly done on terraces both on lower and higher elevation areas (see Figure 4.1). Only *Kharif (*summer-autumn cropping season) crops are grown in high altitude lateral valleys which remain very cold in winter. Both *Kharif* and *Rabi* (winter-spring cropping season) crops grow in the lower valleys and along the banks of the Indus wherever land and water are available.

Figure 4.1: Tarrace Cultivation at Chuchang (1,054 masl) and Seo (864 masl) Villages

The major crops grown in the district are maize, rice and wheat. Pulses such as *mot*, *ko*t, red beans and vegetables like potatoes are grown. Agricultural products are solely for family consumption and nothing is produced for the local market. Details of acreage and production of some major crops grown in the district for the year 1998-99 are given in Table 4.2

Table 4.2: Acreage and Production of Major Crops in Kohistan

Major Crops	Area (Hectares)	Production (Metric Tons)
Maize	26,630	56,154
Wheat	2,080	2,441
Rice	68	149
Oil Seed	0	0
Potato	82	492
Pulses	1,050	2,100
Barley	72	74
Vegetable	82	168
Fruit Farms (number)		
Trees	120,000	

Source: District Census Report, Kohistan, 1998

Irrigation is not systematic. Almost all the valleys have gushing streams (*nullahs*), carrying water for most of the year. The lands along the bank *nullahs*, which can be commanded, are irrigated through channels constructed by the people themselves. In some areas land is also irrigated from springs.

4.2 HOUSING AND SETTLEMENT PATTERNS

As noted earlier, small villages are located along river banks and in the mountains as people like to live in small groups mostly comprised of close relatives.

Since the terrain along the Indus River is mountainous with steep slopes, the villages are on the terrace lands and slopes. The hamlets/villages on both river banks are old

settlements with their own social and cultural heritage dating back hundreds of years. The hamlets are scattered and the population density is low. The houses are largely *katcha* (made of wood with mud walls). There are also semi-*pucca* houses and *pucca* (brick built) houses. Two or more extended families related by blood or marriage live in one house. Thus, the basic residential/economic unit is the patrilocal joint family. Typically, this unit includes an elder's household and his married sons' families. Married sons generally live in their father's household with the father or the eldest brother exercising authority over the extended family.

Figure 4.2: Types of Houses (Katcha, Semi-Pacca, Pacca)

The head of the household (father or eldest brother) has the responsibility and authority to make decisions on behalf of the entire household members. It is within the joint family that the primary collectives for daily economic activities and addressing other practical matters are found. In joint families all family members pool together their incomes and collectively share their expenses on food, clothing, education, health, births, marriages and funerals. However, during the last few years it has been observed that this trend of living in joint households is gradually changing and people have also started living in single family households. Nonetheless, the primary unit of social structure in Kohistan is still the joint family living under one roof and the next unit is the small village or hamlet. Kinships and tribal organizations permeate the social and cultural life of Kohistani people.

4.3 SEASONAL MIGRATION AND LIVELIHOODS

Seasonal migration is very common in Kohistan and people practice it for a variety of reasons – climate, livelihoods (availability of resources) and cultural – being the principal factors. These are discussed below. Usually people commence migrating to higher elevations in May and start moving back in mid October. Most people in the Project area thus have two houses.

Typically, people have built permanent houses on the lower altitudes of the mountains but migrate to temporary abodes at higher elevations of the same mountains during summer to avoid the heat and feed their livestock. At higher elevations people have more grazing lands and forests. The preferred housing is at higher elevations but those who have jobs or businesses at lower elevation stay almost all the year there. This cyclical seasonal transhumance is common all over the valleys in Kohistan (see Figure 4.3 below).

In winter people live near the river; this is where they have their more permanent 'winter residence'. Below 1,500 m asl two agricultural crops are possible, but there is little suitable land available for farming. Hence farmers cultivate higher land (2,000- 2,500 m), where only one crop is possible due to climatological reasons. This is where they build

their “summer residence”. The pastoralists herd their livestock in summer at higher altitudes (2,500- 3,000 m) and have “temporary shelters”. They come down in winter together with their cattle. Those who are shepherds have a fourth house at the top and move there to graze their livestock. The following schematic migration patterns further illustrates this.

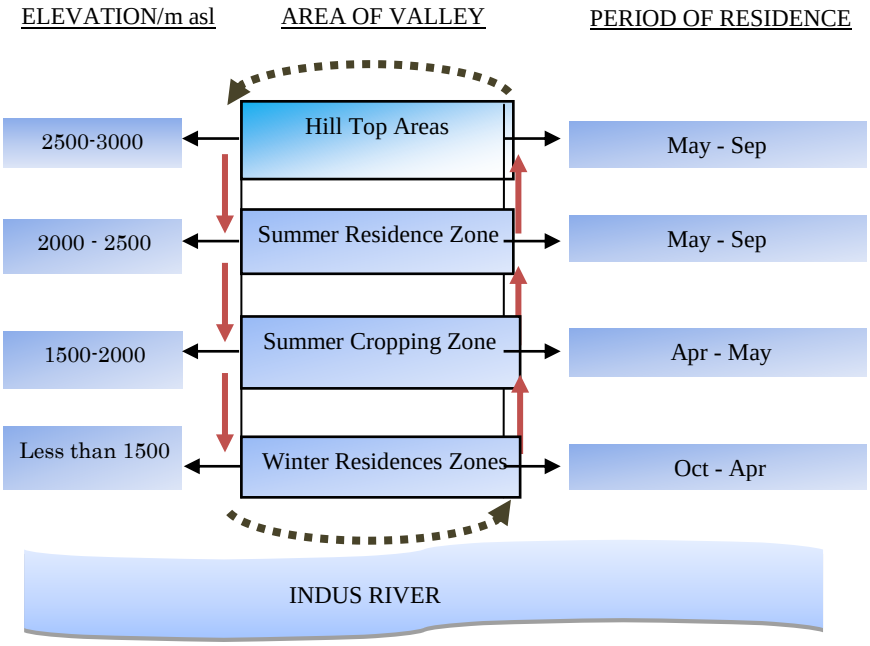


Figure 4.3: Seasonal Migration Pattern of People in the Project Area

Keeping in view the migration patterns of the people within the valleys, the entire area can be divided into four zones.

4.3.1 Winter Residence Zone (Lower Elevation)

During the winter season, from October to April, people reside along the banks of the Indus River. In the Winter Residence Zones villages are scattered along the Indus River up to a maximum level of almost 1,500 masl. Due to open grazing in winter people grow limited crops at lower elevations. In summer when they start moving to higher elevations they cultivate crops at lower areas and at the start of winter when they come back to lower areas, they harvest these. In winter the leaves of *bani* and wild olive, which grow on the river banks, are used as fodder for cows, goats and sheep.

Figure 4.4: Villages at Lower Elevation (Siglo at 834 masl and Gummo 922 masl)

4.3.2 Summer Cropping Zone (Middle Elevation)

In April people start moving to their summer residence zones and on the way some people who have terraces at middle elevation in the range of 1,500 m asl to 2,000 m asl stay there for two to three weeks. People stay in temporary shelters to graze their livestock and cultivate crops.

4.3.3 Summer Residence Zone (Higher Elevation)

During the summer from May to October, villagers prefer to move to higher elevations to beat the heat. In addition, most villagers have livestock and agriculture fields in the middle and upper areas of the valley and during summer their livelihood mainly depends upon these. A further consideration is that, while at the lower elevation, villagers have to buy fuel wood but when they move to upper levels during summer they can gather fuel wood from their own and communal forest areas where fodder is also available. The main source of fodder for livestock is the residue of maize and wheat and natural grass from the rangeland. In the lower altitudes, especially in the summer, there is a scarcity of fodder for domestic animals which is also a reason, inter alia, for the migration to their rangelands and forests at higher elevations in the spring. Another reason to move to higher elevations is because they own forests there and for the collection of walnuts and pine nuts - all major sources of income.

Figure 4.5: Raziqa village (2,100 m asl) and grazing land at Suppat Gah (2,000 masl)

4.3.4 Hill Top Areas (Alpine Hills)

Some of the villagers, mostly shepherds also move to the top hills to graze their livestock in summer. Only one or two family members move to the top hills, and not the entire family, due to the extreme cold weather. They live there in temporary shelters for four to six months.

In October villagers start moving to the Winter Residence Zone and some people again stay for two to three weeks at middle elevation. This seasonal transhumance to upper elevations not only provides people with favorable living conditions and fodder for livestock, but also economic benefits. People who remain living in winter houses throughout the year are those engaged in government employment, other private sector jobs as well as tenants who have to care for others' agriculture fields.

Out-migration from the Project area is quite limited and largely tied to paid labor opportunities in places like Abbottabad, Mansehra, Rawalpindi and Swat. Entrepreneurs, too, migrate to downstream areas where there are more opportunities. Out migration is also noticed in the case of those who seek higher education.

5 SOCIOECONOMIC BASELINE

5.1 INTRODUCTION

This chapter presents a socioeconomic baseline of the Project area and the vicinity based on a sample survey of 320 households from 34 villages.[18] The sample survey covered all types of households directly and indirectly affected, from right and left banks and also from upstream and downstream villages. The results of the survey are presented first, followed by a discussion of the impact of land acquisition by zones, the land tenure system in the Project area, and the extent of displacement to be caused by the Project construction.

Before giving the survey findings, it would be useful to give an overview of the situation in the entire district. Kohistan is an extremely underdeveloped area and enjoys a tax-free status in Pakistan. The 1998 Census placed Kohistan bottom in the country in terms of socioeconomic development indicators. The proportion of the population that was working and employed was 26.4 percent, equivalent to 70.53 percent of the total labor force. Of the total employed population, 71.60 percent were self-employed, 10.68 percent worked as employees and 17.32 percent were unpaid family helpers.

Prior to 1965 there was no education on the left bank at all. Following the 1974 earthquake that devastated the region, the federal government started some schools. But the sentiment among local people was 'we would rather die than go to school'[19].

The Karakoram Highway (KKH) has had a big impact in terms of opening up the region to the outside world. Large numbers of people are employed in NGOs, and increasingly are trying for jobs in government/police. Now feelings have changed, and there is more appreciation of the importance of education and a greater desire to progress, but this is happening at a slow pace.Presented below are the findings of the socioeconomic survey for the Project area specifically

5.2 PROFILES OF THE SAMPLE VILLAGES

The sampled villages are very typical of the Project area. Most of them are small comprising less than 20 households. Such small villages could perhaps be more accurately described as hamlets.

There are four BHUs on the right bank and a Rural Health Centre on the left bank. In addition, there are three private clinics, one private maternity home, and seven medicine shops on the right bank. Also, on the right bank, there are six midwives, three homeopathic medicine practitioners, and a *hakeem* (traditional medicine man). The left bank has three medicine shops. However, only some of these facilities are being affected by the Project.

In the 34 villages covered by the baseline, there are 14 primary schools for boys, ten for girls; and two middle schools and two high schools for boys only. In addition, there are nine religious schools (*maktab and madrassa*). Again, only some of these institutions are being affected by the Project.

Most villagers use natural springs as the principal source of drinking water (10 villages on the right and 12 villages on the left bank), followed by water from *nullahs* (sub-channel of the river). There are five water tanks, which are privately owned (four on the right and one on the left bank). Of the sampled households, 18 have bicycles, 32 have motor cycles and 48 have truck/vans. These are important modes of transportation used by the villagers, in addition to buses for travel to large city centers. Fifty-one families have land lines while 41 households have televisions. Only some of these facilities are being affected by the Project.

[18] See the list of the villages covered in Appendix- C
[19] According to a *malik* interviewed in September 2012

5.3 SOCIOECONOMIC BASELINE DATA

5.3.1 Demographic Information

Of the 320 sampled households, 157 (49 percent) are on the right bank and 163 (51 percent) on the left bank of the river. Only one of the 320 households interviewed is female-headed (right bank). In terms of marital status, heads of 313 households (98 percent) are married, while six (1.88 percent) are single, and one (0.31 percent) is a widow. On average, each household on right and left banks comprises of almost eight members.

As seen in Table 5.1, the 320 sampled households have a total of 2,398 people, of whom 55 percent are male and 45 percent female. The male: female ratio is 1.24, which is also the ratio for Kohistan District (see Table 2.1 in Chapter 2).

Table 5.1: Distribution of Populations by Sex

Location	Households	Sex				Total	
		Male	%	Female	%	Total	%
Right bank	157	612	54	522	46	1,134	100
Left bank	163	718	57	546	43	1,264	100
TOTAL	320	1,330	55	1,068	45	2,398	100

Source: Field Survey 2012, DHC

5.3.2 Literacy Rate

The socioeconomic survey conducted in the Project area revealed that the literacy rate among the population is 23 percent, lower than for District Kohistan (30 percent) which in itself is low compared to the national rate of 57 percent. Table 5.2 further shows that the rate for males is 37 percent, which is six times higher than for females (6 percent) revealing a huge gender gap in literacy.

Table 5.2: Literacy Rate

Literacy level	Total Number of Persons		
	Male	Female	Total
Illiterate	824	1,007	1,831
Primary	362	53	415
Matric	79	6	85
Graduate	50	2	52
Higher Education	15	0	15
Overall	1,330	1,068	2,398
Literacy ratio	37%	6%	23%

Source: Field Survey 2012, DHC

5.3.3 Education Level

Among literate people sampled in the Project area only 2 percent have higher education, about 4 percent have studied up to Matric and 17 percent up to primary level as presented in Table 5.3 below.

Table 5.3: Education Level

Education Level	Total Number of Persons			
	Lt. Bank	Rt. Bank	Total	%
Illiterate	824	1,007	1,831	77.00%
Up to Primary	342	53	395	16.61%
Up to Matric	79	6	85	3.57%
Higher Education	50	2	52	2.19%
Professional and Postgraduate	15	0	15	0.63%
Total	1,310	1,068	2,378	100

Source: Field Surveys 2012, DHC

5.3.4 Health

In the entire Kohistan district there is no hospital, but one district hospital is under construction at Dasu. Primary healthcare is provided through Rural Health Centers (RHC) and Basic Health Units, including in the Project area.

There are two RHCs in tehsil Dasu, providing healthcare to the people of tehsils Dasu and Kandia, and including the Project area. These RHCs are situated in Dasu and Shatial. There are three doctors, one dental doctor, and three LHVs in these RHCs. RHC Dasu is perceived as a comparatively better health facility in the whole district, even though it is in a deplorable state. Only RHC Dasu has a laboratory for basic investigations. It is also equipped with a tuberculosis center, delivery room and an ambulance for referral patients.

BHUs are situated at union council level and are meant to provide basic curative and preventive services with no in-patient facilities and no laboratory. In Kohistan the main activities in the BHUs are offering limited basic curative services; this is due to lack of staff and because of cultural restrictions. The Expanded Programme of Immunization (EPI) is planned to be carried out in each BHU, also playing an active role in the polio eradication programme. There are eight BHUs in Dasu tehsil (BHU Jalkot, BHU Seo and BHU Kai Doga are in the study area) and four BHUs in Kandia tehsil (BHU Thuti is in the study area). Out of these four BHUs, two BHUs (BHU Seo and BHU Kai Doga) are being affected by the Project. Details of the health facilities in the Project area are given in Table 5.4 below.

Table 5.4: Health Facilities

Sr. No.	Health Facilities	No. of Health Facilities		
		Left Bank	Right Bank	Overall
1.	Hospital	0	0	0
2.	Rural Health Center	1	0	1
3.	Basic Health Unit	0	4	4
4.	Dispensary	0	1	1
5.	TB Centre	0	0	0
6.	Maternity Home	0	1	1
7.	Private Clinic	0	3	3
8.	Village doctor w/o training	0	1	1
9.	Hakeem	0	1	1
10.	Homeopathic Clinic	0	3	3
11.	Midwife	0	6	6
12.	Medical Store	3	7	10
Total		4	27	31

Source: Field Surveys 2012, DHC

5.3.5 Water Source for Households and Sanitation

The Indus River is fast flowing with a high turbidity and is not used as a water source by the population. However feeder Rivers from the side valleys have a low turbidity and are used, as well as springs. While quantity of water is ensured, access to proven clean and safe water for households is limited. Once again Kohistan falls far below the country average for access to clean water. The main sources of water in the Project area are given in Table 5.5.

Table 5.5: Sources of Water

Sr. No.	Categories	Left Bank		Total	%	Right Bank		Total	%
		Drinking	Irrigation			Drinking	Irrigation		
1.	Dug Well	0	0	0	0.00	0	0	0	0.00
2.	Hand Pump	0	0	0	0.00	0	0	0	0.00

3.	Tube Well	0	0	0	0.00	0	0	0	0.00
4.	Pipe water	2	2	4	5.19	0	0	0	0.00
5.	Water Tank	1	2	3	3.90	4	0	4	5.71
6.	Natural Spring	14	16	30	38.96	10	10	20	28.57
7.	Water Channel	0	14	14	18.18	6	20	26	37.14
8.	Nullah	8	18	26	33.77	7	12	19	27.14
9.	Others	0	0	0	0.00	1	0	1	1.43
Total		25	52	77	100.00	28	42	70	100.00

Source: Field Surveys 2012, DHC

About 51 percent of the population of KPK had access to proper sanitation facilities (underground, covered or open drains) in 2006/07 and only 44 percent of rural residents had access to sanitation facilities. The sanitation system of Dasu is not very good. There is a proper sanitation system in the Dasu area but in other villages and hamlets there is no proper system available. Some people discharge their sanitation water into the river and some people dig a pit and discharge there.

5.3.6 Occupational Profiles

A majority of the working-age population surveyed were without any gainful employment. Of the people with gainful employment, 47 percent were employed in agriculture cultivating terraced plots. In households practicing agriculture, women were also involved in cultivation activities. Sixteen percent were engaged in businesses while only eight percent were engaged in government or private sector employment. About seven percent were engaged by livestock owners to look after their herds though very few were employed as agricultural laborers. Laborers engaged as daily wage earners constituted around fourteen percent. Eight percent of the employed were engaged in other work which included 10 "*soniwal"* households involved in sieving sand from the Indus river banks for gold – this is found in very low quantities.

Table 5.6: Occupational Profiles

Livelihood Sector	No. of Persons			
	Male	Female	Total	%
Agriculture	371	140	511	47.05
Business	176	0	176	16.21
Skilled Works	10	0	10	0.92
Govt. Jobs	60	0	60	5.52
Private Jobs	27	0	27	2.49
Agri. Labor Permanent	1	0	1	0.09
Livestock Rearing	73	8	81	7.46
Labor	156	0	156	14.36
Soniwals	21	7	28	2.58
Others	34	2	36	3.31
Total	929	157	1086	100.00
Gender %	85.54	14.46	100.00	-

Source: Field Surveys 2012, DHC

5.3.7 Level of Income

Level of income recorded in the baseline survey[20] is PKR 9,500, which is above the national per capita income of PKR 10,930 ($ 1,372[21] in 2011-12[22]. About 30 percent of

[20]Field Surveys, 2012
[21]Pakistan Economic Survey 2011-12http://www.finance.gov.pk/survey/chapter_12/ExecutiveSummary.pdf, accessed on 22/12/2012
[22]Pakistan Economic Survey 2011-12http://www.finance.gov.pk/survey/chapter_12/ExecutiveSummary.pdf, accessed on 09/10/2012

the households surveyed fell below the poverty line[23]. Comparatively higher per capita income was reported from the village Seo on the right bank and downstream, while the lowest was in Cher Shial, also on the right bank. In the female headed household, the income was much lower than the average.

Table 5.7: Level of Per Capita Income

Location	Income Level (PKR/Person/Month)								
	Up to 3,411	%	3,412 to 5,000	%	5,001 to 10,000	%	Above 10,000	%	Total
Left Bank	48	29.45	26	15.95	72	44.17	17	10.43	163
Right Bank	37	23.57	34	21.66	64	40.76	22	14.01	157
Total	85	26.56	60	18.75	136	42.50	39	12.19	320

Source: Field Surveys 2012, DHC

Considering income from various livelihood sectors the highest earners are those involved in businesses such as timber extraction, with government employees earning second highest and skilled work and handicrafts accounting for the third highest earnings. The number of villagers involved in businesses is only second to those practicing agriculture. The lowest income earning occupations are handicrafts and fishing (see Table 5.8).

Table 5.8: Average Income by Livelihood Sector

Livelihood Sectors	Persons Involved	Avg. Income	Percentage
Agriculture	511	3,269	15.41
Business	176	24,970	40.54
Skilled Work/ Handicrafts	10	17,850	1.65
Govt. Jobs	60	20,344	11.26
Private Jobs	27	11,944	2.98
Agri. Labour Permanent	1	30,000	0.28
Livestock Rearing	81	7,293	5.45
Labour	156	10,615	15.28
Soniwals	28	10,417	2.69
Others	36	13,447	4.47
Overall	1086	9,981	100.00

Source: Field Surveys 2012, DHC

5.3.8 Use of Remittances and Investments

Remittances from those employed outside Kohistan are being used in different ways in the Project area. The people in the project area are reluctant to invest in banks for interest due to religious constraints. The common methods of investment in the Project area are purchasing property, agriculture land and new vehicles. People are shy to talk about the exact amounts of remittance received and investments made, other than to give very general statements.

5.3.9 Poverty Status

Poverty is usually measured as an index of income inequality. According to the Economic Survey of Pakistan 2010-2011, the poverty line has been adjusted at $1.25 per person per day. Therefore the calculated poverty line is PKR 3,411 per person per month. As seen in Table 5.9 below, the proportion of households living under the estimated national poverty line is 27 percent; 12 percent households earn above Rs. 10,000 per person per month, which can be considered as higher income level.

[23] US$ 37.5 per month

Table 5.9: Percentage Above and Below Poverty Line in Project Area

Income Level PKR/Person/Month	Percentage
1,000 to 3,411	27
3,412 to 5,000	19
5,001 to 10,000	42
10,001 and above	12

Source: Field Surveys 2012, DHC

5.3.10 Agriculture

The major crops grown in the Project area are maize, wheat, and rice with pulses like *Mot*, *Kot*, red beans and vegetables. The traditional subsistence farming system has been widely practiced for generations in the area. It is the predominant economic system, which in general supplies the people with most of their daily needs.

Agricultural products are not generally sold in the local markets. Selling in the markets or to neighbors is resorted to only in two cases. One, when the plot size or the yield of harvest exceeds the family food demands and, two, when families are forced to sell their food products in order to get some cash (for marriage, purchase of products such as wheat flour, salt, tea, sugar, clothes, shoes, medical services, transport, and education).

All kinds of vegetables are grown in the area, not only for household use but also to supply other parts of the country. Prior to flooding in the entire Kandia valley farmers usually grew peas on a commercial scale. This accounted for a big share of their household income.

In some areas of Sazin Valley, where progressive farmers grow potato for household use and commercial purposes, the yield of potato is very high due to the absence of viral disease. The cardinal variety of potato recorded high yields.

The common and very famous vegetable of the area is *samchal* (wild spinach) which is commonly grown in every kitchen garden. Non-perishable vegetables are usually brought from Swat and Mansehra.

The main source of fodder is the residue of maize and wheat and natural grass from the rangeland. Especially in summer, at the lower altitudes, there is a lack of fodder for domestic animals. That is why the majority of people migrate to their rangelands and forests at higher elevations in the spring to spend summer with their animals in the meadows. The extreme scarcity of cultivated land results in insufficient provision of fodder (dominant crop is maize) during the winter period. Around 80 percent of the cultivated land in summer is covered by maize, which is also used for flour production including fodder stock for domestic animals during winter.

Traditional methods are used for fodder production which is very unscientific. For example, more seed is put to get the thick stand of crops (wheat, maize). Later on, some of the plants are uprooted / cut and fed to the livestock, which is a good practice for getting fodder but at the expense of reduced yields. Probably, the farmers cannot afford to put sufficient area exclusively under fodder due to requirements for staple crops of wheat and maize.

In the winter season people use the leaves of bani and wild olive as fodder for their cows, goats and sheep which are common on the riverbanks. In the Project area, availability of fodder is a big problem because there are few agriculture fields and the population is increasing day by day. This is the main reason why people keep only goats, cows and sheep which can easily graze openly in the hilly areas. To overcome the fodder deficiency, Barani Area Development Project-II and Kohistan Development

Project introduced *mot* grass practices in the area which are still applied in some areas. Table 5.10 gives the area under different crops.

Table 5.10: Area under different Crops

Crops	Area Under Different Crops (ha)	
	Area (ha)	%
Wheat	190	44.37%
Maize	226	52.73%
Sorgam	0.10	0.02%
Vegetable	10	2.35%
Fodder	2	0.53%
Total	428.1	100.00%

Source: Field Surveys 2012, DHC

5.3.11 Livestock

Livestock is the second major source of income in the area. The majority of people are engaged in livestock production. They care for and rear their animals and, whenever the numbers of animals exceed their needs, sell those in the market, especially on the occasion of Eid-ul-Azaha, and get some basic things for their daily life.

The livestock in the Project area include buffaloes, goats, cows, oxen, sheep, chicken and horses. The average livestock in the affected villages is given in Table 5.11.

Table 5.11: Livestock Population the Project Area

Sr. No.	Livestock	No. of Livestock	Percentage
1	Buffaloes	60	0.36
2	Cows	839	5.06
3	Goats	9476	57.16
4	Sheep	1350	8.14
5	Oxen	271	1.63
6	Calves	564	3.40
7	Donkeys	260	1.57
8	Horses	122	0.74
9	Chickens	3577	21.58
10	Others	59	0.36
Total		1,6578	100.00

Source: Field Surveys 2012, DHC

5.3.12 Civic Amenities available in Villages

The average village in the Project area consists of 20 to 25 household units. Most villages already have a range of civic amenities. For example, access roads to the villages are fairly common with some having internal roads too. Micro-hydro powerhouses and irrigation systems are also found in the hills using natural stream sources. Nearly every village has a mosque. One in every three villages has a school for boys; however, rarely for girls. Some villages have latrines and better sanitary conditions than others. Every second village has a community graveyard. A Basic Health Unit (BHU) is available for a cluster of villages. Finally, the villages have good access to markets and transportation networks.

5.3.13 Grazing

There is an open grazing system in the entire Project area and restriction on the movement of livestock. In some areas barbed wire has been installed around the

agriculture fields but mostly there is open ended rather than closed grazing. The total affected grazing area of the Project area is 280 hectares.

5.3.14 Forestry

There are forests on both right and left banks of the Indus. They are placed under two forest divisions, i.e. Lower Kohistan Forest Division and Upper Kohistan Forest Division.

Forests, though essentially located on high elevations, are the most important natural resource of the area. Firstly, they meet the fuel wood requirements of the local inhabitants. Secondly, forests are quite a significant source of income for communities as: private owners; woodchoppers; and timber cutting thereby selling through government leasing. The forest royalty ratio is 80:20 i.e. 80 percent share belongs to the community while 20 percent goes to the provincial treasury of KPK province.

5.3.15 Soniwals

Soniwals are a migratory tribe in the northern areas of Pakistan. In recent times, they have adopted a sedentary lifestyle and earn their livelihood through gold extraction from sand which is deposited on the banks of the Indus River. In the Project area, there is a settlement of *soniwals* with 13 families. While their residences are not being affected by the Project their livelihood could be as they are moving from one place to another after some time. The gold extraction season normally starts from late October and goes up to the first week of April and this one season of gold extraction is their earnings for the year. In this period one household earns almost PKR 350,000 on average. Most of the family members (male and female) participate in the gold extraction trade.

5.4 CONSULTATIONS DURING DETAILED DESIGN PHASE

During the detailed design stage, a series of public consultation meetings and *jirgas* were conducted by WAPDA and the consultants of the Social and Resettlement Team, with particular focus on Project planning, impacts and mitigation measures (for further details and list of those consulted, see Vol. 3 Public Consultation and Participation Plan). The main issues discussed with affected persons and communities are listed in Table 5.12.

Table 5.12: Key Issues Discussed in Meetings and *Jirgas*

Issues	Description
Compensation for land and other assets	The compensation issues and rates are of importance both to APs and WAPDA. The local demands have been for the rate applied in the case of Basha Dam upstream. LA notification has not been set yet by District Collector. In view of the absence of cadastral surveys/maps, it is important to prepare the maps and records first with community inputs and *jirgas*. However, the affected communities want WAPDA to fix the rate prior to Section 4 notification. A recent *jirga* formed a committee to discuss this with WAPDA Project Office.
R&R Site Development	Affected communities want to relocate to higher elevations to sites of their own choosing in the hills with basic amenities to be built at Project costs. People expressed their concerns regarding access roads to new sites at upper elevations, water, power and irrigation systems for terrace cultivation.
Job and Employment	The affected communities/sub-tribes demand full employment in the Project during construction and in post-construction periods. In one of the *jirga* meetings, a request was made for vocational schools for boys and girls to prepare the affected persons for employment in the Project. Accordingly, WAPDA has also taken initiatives to conduct pilot training for candidates selected in batches from Project affected households. In addition, some outside employment or overseas employment opportunities are also expected by local APs.

Livelihoods	The traditional terrace cultivation and animal herding by the sub-tribes will be affected due to relocation and lack of terraced land in upper elevations. Thus alternative livelihood options after relocation must be explored since the vocational training mainly focuses on the limited group of APs, namely, youth with at least primary education completed.
Environmental and Social Issues	Despite community-based preferred relocation, there will be some disruptions - for example to schooling, access to markets and health clinics. Two suggestions were made at meetings: (i) reforestation as an alternative livelihood after relocation, and (ii) the agro-ecosystem of the affected area and need for new irrigation support.
Health and safety issues	The health and safety issues during dam construction were discussed. Local people are concerned about migrant workers for dam construction, noise and air quality issues, and heavy traffic on KKH during the construction period. It was claimed that the dam will affect community health and well-being and will impact on their limited and fragile social infrastructure.
In-migrants and Outsiders	This has been flagged in community level meetings as a very big concern by the affected communities. The “outsiders” – for example, construction workers, construction material suppliers and service providers (such as chefs, grocers, barbers, etc.) are required, in addition to local human resources. However, local villagers have “mixed” feelings about the outsiders moving in to work, including potential cultural and social conflict.

6 DESCRIPTION OF PROJECT IMPACTS

6.1 GENERAL

The construction of the Dasu Hydropower Project (DHP) will have several impacts on local communities, including: land acquisition, loss of houses, loss of private and community structures, loss of public structures, loss of livelihoods and loss of trees. The Project will have further impacts on local communities through disturbance due to construction work, issues related to health, safety and well-being, pressure on local markets (businesses) and pressure on basic infrastructure. The Project impacts and mitigation measures are given in detail in Volume 5 (RAP) of the SRMP. A separate Resettlement Framework has also been prepared as Volume 4 of the SRMP and environmental impacts and mitigation measures are provided in Volume 2 (EIA) of EMP. This section provides the Project impacts and mitigation measures.

6.2 AFFECTED AREAS

6.2.1 Land Acquisition Requirements

The Project will acquire land for various components from 34 villages located on the right and left banks upstream and downstream of the dam. It is estimated that the probable maximum flood (PMF) will not cause a rise in the reservoir level beyond 957 masl. With further safety considerations the land acquisition zone for the reservoir has been determined as land below 1,000 masl covering an area of 4,006 hectares. The construction of 68 km of relocated KKH will require acquisition of 42 ha of land on the left bank. The total land required, as per the detailed design for the various Project components, is 4,643 ha.

Table 6.1 below details the component-wise breakdown of the land requirement (see Appendix D: Villages and HHs by Different Project Component and Appendix H: Map showing different Components).

Table 6.1: Land Acquisition Requirements by Components

Component	Land affected (ha)
Reservoir area*	4,006
Dam and Powerhouse Plant Area	269
KKH Realignment	42
Access Road	157
Colony, Office and Construction Camp	102
Other Uses**	67
Total Land Required	4,643

Source: GIS Mapping Detailed Design, DHC
**Reservoir area includes River area (State Land) = 1067 ha*
***Fish Hatcheries, Nursery, Pozzolan Area, Grave Yard, PCR, Resettlement Site, etc.*

6.3 IMPACT ZONES

This section summarizes Project impacts by zones. The Project area with key Project features is shown in Figure 6.1.

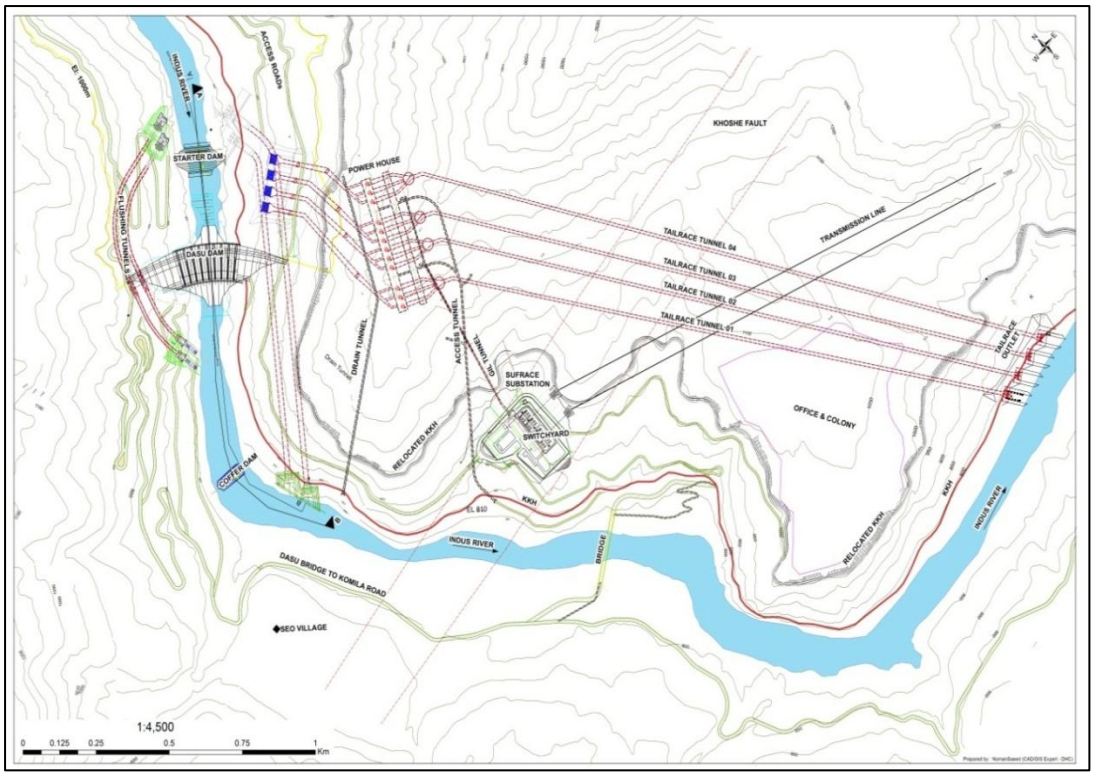


Figure 6.1: Dasu Hydropower Project Components

The area to be affected by the Project can be categorized, in terms of use, as: (a) reservoir area; (b) dam; (c) KKH; (d) camp site; (e) Project colony; (f) labor camps; (g) dumping site; (h) construction material extraction site; (i) access road; (j) settlement sites; and (k) downstream area. Table 6.2 divides the Project area into 11 zones and summarizes the design characteristics and key issues.

Table 6.2: Summary of Characteristics by Impact Zones

Zone	Affected Villages	Overview of Design Characteristics	Key Issues
Reservoir Area	Siglo, Melar, Kuz Kai, Kai Dogah, Seer Gayal, Kot Gal, Warisabad, Not Bail, Thuti, Sluch, Doonder, Gummo, Cher Shial, Logro, Uchar Nallah, Barseen, Largani, Kaigah, Gul-e-Bagh/ Maidan, Pani Bah, Gadeer, Chalash, Looter, Shori Nullah, Summer Nullah, Lachi Nullah, Sazin Camp, Shatial	• A reservoir of 74 km length will be formed upstream of the dam at FSL of 950 masl. • At high flood level (HFL) the reservoir at El 957 masl would use 2,654 ha of land. • At normal maximum reservoir level of 950 masl the reservoir area will be 2.385 ha • At low level of El 900 masl the reservoir area will be 1.136 ha. The design will allow 5 m flood surcharge and a 2 m wave height through free board.	• The reservoir area will affect 29 villages, 14 on right bank and 15 on left bank. • Most houses are built with stone and mud masonry and have wooden roofs. • Up to 1,000 m height area will be acquired. • Additional issues include water quality, plants and animals, and human settlements.

Dam	Siglo, Logro	• The dam axis is 8 km upstream along the river from Dasu town. • More than 1,000 m height area will be acquired near the dam axis due to new alignment of KKH and for dam security reasons. • Underground structures will be constructed including: i) two river diversion tunnels, ii) four power intake tunnels with four penstock, iii) underground powerhouse cavern with 12 turbines, iv) four tail race tunnels with four surge shafts, v) transformer cavern and vi) discharge portal at Indus River. • Underground power house will have installed capacity of 4,320 MW from twelve turbines. • The tailrace tunnels would discharge water back into the main Indus River 4 km downstream of the dam axis.	• Two villages – Siglo on the right bank and Logro on the left bank – will be affected • Both banks are accessible by road • All these facilities will be located on left bank. • Alternatives were considered for the selection of dam axis site • The selected site has reduced the overall impacts in terms of dislocation of affected persons. • Construction activities will also affect other villages
Relocation of KKH	Chuchang, Khoshi, Logro, Uchar Nallah, Barseen, Largani, Kaigah, Gule Bagh/ Maidan, Pani Bah, Gadeer, Chalash, Looter, Shori Nullah, Summer Nullah, Lachi Nullah, Sazin Camp	• Due to inundation by the reservoir, 70 km length of KKH will require relocation • A second part of KKH (15.57 km) will also be relocated downstream of the dam site, from Ucher village to existing KKH to join the existing low-level road with the new road relocated at the higher level. • Two 3 km long link roads will also be provided upstream of the dam site to join the relocated KKH with the existing one.The total length of the relocated KKH will be about 68 km.	• Affect several villages due to the relocation at upper elevations. • All households to be affected have been identified • Villagers have communal and/or customary rights of the land • Management of biodiversity and customary land rights and livelihood sources of the affected people. • No protected forest area affected.

Camp Site	Uchar Nallah, Kaigah	• This site is proposed on left bank of River Indus and dam. • A large amount of equipment will be required for construction of dam, including scraper, dozers, cranes, dump truck, trucks for materials transportation, transport vehicles, quarrying plant, and stone crusher drilling, which will use diesel engines that generate noise and exhaust emissions. • Also land has to be cleared for a batching plant, workshops and stores of materials.	• Kai Gah and Uchar Gah village will have to be relocated from upstream of dam axis. • About 96 households will be affected here. Right bank access roads will have to be upgraded. • These activities should be monitored by the environmental monitoring unit.
Project Colony	Chuchang	• Project colony site at Chuchang with provisions for 600 units for O&M staff, engineers, support and service staff at the Project site • This site is located at the edge of KKH on left bank of Indus River, so this site is quite suitable for the proposed staff colony.	• 73 acres of land will be acquired for housing colonies • Relocation of some 100 households likely to be affected in Chuchangvillage • All affected persons have been identified, including assets to be lost. • There are many fruit as well as wooden trees.
Labor Camps	Uchar Nallah	• Uchar Gah on the left bank will be used for Labor Camps. • Camp will provide mosque, market, medical store, recreational facilities and utilities like water supply lines, sewerage and electricity. .	• Local and in-migrants issues may lead to conflict; increased concern for safety of women and children • Management plan for in-migrants and construction workers and coordination with host communities required • Many of the facilities to be built – for examples, mosques, markets, medical store – can also be accessed by the local villagers.

Dumping Sites	Kass, Rango	• A huge amount of waste material will need to be dumped • Considered suitable area as dump sites.	• Two right bank sites in Rango and Kass villages selected. • No close by settlements; dumping of huge materials may lead to health and environmental issues in the surrounding settlements
Construction Material Extrction Site	Gini	• Huge construction materials and rocks will be required • Estimated 5.5 million m^3. gravel; 2.7 million m^3 of sand; 1.2 million m^3 of cement; 0.6 million m^3, of pozzolan; and 90,000 tonnes steel reinforcement will be required • Rock quarry sites are local, but pozzolan sites are 70 km upstream from the dam site	• Material sources are local – for instance, rocks, pozzolan, sand and gravel; cement and steel have to be transported from Lahore and Islamabad • Concerns include impacts on roads, traffic management in KKH, and environmental issues
Access Road	Komila, Kass, Rango, Seo, Siglo, Melar, Kuz Kai, Kai Dogah, Seer Gayal, Kot Gal, Warisabad, Not Bail, Thuti, Sluch	• Access road construction and/or improvement required for alternative access to dam site and to contractor's facilities • The road junction with KKH will be modified. After passing through the buildup area at Komila the road will leave Seo road and take independent route to dam site.	• Existing road through Komila village will be improved • Limited impacts and disruption – all affected structures and households identified • Management of construction traffic through the dense village would be necessary

Resettlement Sites	Melar, Sluch, Doonder, Gummo, Chuchang, Uchar Nallah, Barseen, Largani, Kaigah, Gule Bagh/ Maidan, Sazin Camp, Shatial	• 27 potential sites in upper elevation (above 1,000 m) identified for development as desired by the affected communities • WAPDA will develop those sites and provide basic civic and social amenities, including access roads. • Sample lay out design already prepared; includes, access road, school, mosques, internal roads, house plots, water, sewerage, and provision for solar power (until power generation)	• Efficient implementation of resettlement sites and development programs • Carrying capacity of new sites and land use • Sustained community consultation and involvement in the development of sites • Alternative livelihoods and income sources • Attention to vulnerable groups in relocation
Downstream Area		• Downstream impacts up to Pattan (100 km) and cumulative and induced impacts up to Tarbela Dam • Discharges and reduced flow will have impacts on riparian habitats • No established villages will require relocation from downstream zone • Use of the river by the villagers for fishing will be reduced.	• Likely impacts on plants and animals that inhabit the downstream area • Most of the current fish population from the immediate downstream zone will likely be reduced • Amount of riparian release will influence fish populations and fisheries in downstream villages up to Tarbela. • Exact downstream impacts will be known only during operation.

6.4 RESETTLEMENT ISSUES

6.4.1 Displacement by the Project

The Project will displace close to 6,953 persons from 767 households in 34 villages located on both banks of the Indus River. Most displacement would be by the reservoir and the relocation of the KKH. In general, the impacts include loss of land (residential and agricultural); structures (residential, commercial and communal) income and livelihoods (land owners, wage earners and *soniwals*). As indicated earlier, a total of 4,643 ha of land will be affected as a result of the Project interventions. The different categories of land are given in Table 6.3. (Appendix F gives the categories of land by villages).

Table 6.3: Categories of Affected Land

Land Categories	Affected Land (Hectares)
River Area (state land)	1,067
Agriculture Land	143
Baren Land	3,126
Grazing Land	280
Land Under Structures	27
Total Land Required	4,643

Source: Field Surveys 2012, DHC

6.4.2 Project Impacts

The major impacts on the community have been identified as: loss of structures including residential structures, land including agricultural land, and income and livelihood. In addition, loss of access to KKH and communication has also been identified as impacts requiring mitigation (see Table 6.4). The 300KV transmission line to evacuate power from Dasu to Rawat/Islamabad Grid is a linked but separate project activity to be implemented independently by the National Transmission and Dispatch Company.[24]

Table 6.4: Type of Losses of the Affected Households

Type of Loss	Affected Households (AHs)
Agriculture land	600
Residential Structures	767
Commercial Structures	76
Gold Extraction (Only Livelihood)	13
Community and Public Structures	154
Total	856

Source: Field Surveys 2012, DHC

6.4.3 Impact on Agricultural Land

Although the land is divided among the tribes and allocated to individuals there is no formal or regular system of documenting land ownership in the Project area, as is common to the entire District of Kohistan. In the absence of land title records, ownership of agricultural and other types of land has to be established through joint efforts of the District Collector and DC and, in the case of disputed land, convening *jirgas*. The census and inventory conducted as part of the surveys have not been able to establish land tenure due to non-availability of cadastral land alienation data both at the District Collector Office and with the owners. The land inventory developed during the surveys will have to be completed after the land acquisition survey by the District Collector, for which the Project has provided additional resources.

According to the field surveys 600 households will be affected by acquisition of agricultural land. About 302 of the affected households are on the left bank and the rest on the right bank. About 68 percent of the land is cultivated by owners and 24 percent by sharecroppers; tenant farmers account for about 7 percent.

[24]NTDC have already submitted documents (Vol. 1 Socioeconomic Study and Vol. 2 Resettlement Framework) on the Transmission Line to the Bank. The impacts of TL and mitigation measures are discussed in the documents.

Table 6.5: Agriculture Land Affected and Ownership

Sr. No.	Nature / Type	No. of HH			%
		Left Bank	Right Bank	Total	
1.	Owner	229	183	412	68.67
2.	Owner cum Tenant	0	2	2	0.33
3.	Tenant	19	20	39	6.50
4.	Land used by contract	2	0	2	0.33
5.	Share Cropping	52	93	145	24.17
Total		302	298	600	100.00

Source: Field Surveys 2012, DHC

Table 6.6 shows that Project impacts on agriculture land will be insignificant (see Appendix F).

Table 6.6: Impact on Agriculture Land

Location (River Bank)	Affected Villages	Overall Agricultural Lands (ha)	Affected Agriculture Lands (ha)	Impact on Agriculture Lands %
Left	17	2735	42	1.52
Right	17	4310	101	2.35
Overall	34	7045	143	2.03

Source: Community consultations and GIS Data

6.4.4 Loss of Residence

A total of 767 residential structures will be severely impacted as a result of the construction of the reservoir and associated facilities, leading to the displacement of 767 households. (see Appendix E for details)

6.4.5 Types of Affected Structures

Out of the total 923 affected structures, the highest number of being affected are residential structures (83 percent) followed by community and public structures (9 percent), while commercial structures comprise 8 percent of the total structures (see Appendix G List of HH Affected by Commercial Structures). Table 6.7 below presents usage wise details of the affected structures. The number of households and other establishments requiring relocation is the highest on the left bank (54 percent).

Table 6.7: Impact on Structures

Location (River Bank)	Affected Structures							
	Residential Structures		Public and Community Structures		Commercial Enterprises		Total	
	No.	%	No.	%	No.	%	No.	%
Left	374	87.38	45	10.51	9	2.10	428	54
Right	393	91.82	35	8.18	67	15.65	495	45
Total	767	83.10	80	8.67	76	8.23	923	100

Source: Field Surveys 2012, DHC

In addition to private structures requiring relocation, three structures have been listed under physical cultural resources (PCR). This is further explained and addressed in the PCR Management Plan[25] under the Environment Management Action Plan.

[25] EMAP, Vol. 7 P*CR Management Plan, 2012.*

6.4.6 Loss of Commercial Structures and Income

Out of the 76 affected commercial/ business structures, the highest number being affected are karyana shops followed by general stores and restaurants. The income from these commercial structures ranges from Rs 1,500/month to Rs 150,000/ month with an average of Rs 26,961/month. See Table 6.8 and Appendix F "List of HH Affected by Commercial Structures" for details.

Table 6.8: Impacts on Commercial Structures

Sr. No.	Type of Business	No. of Affected Structures	Minimum Income (PKR/Month)	Maximum Income (PKR/Month)	Average Income (PKR/Month)
1.	General Store	21	3,000	62,000	27,857
2.	Restaurant	12	13,000	60,000	36,583
3.	Hotel	2	75,000	150,000	112,500
4.	Karyana Shop	27	1,500	40,000	19,648
5.	Shoe Store	4	7,000	35,000	16,250
6.	Water Mill	3	8,000	12,000	10,000
7.	Hakeem/ Quack Clinic	3	12,500	50,000	30,833
8.	Cloth Shop	4	5,000	50,000	20,500
Total		76	1,500	150,000	26,961

Source: Field Surveys 2012, DHC

6.4.7 Construction Type of Affected Structures

Of the total 923 affected structures, more than 50 percent comprise *katcha* houses, followed by 36 percent with semi *pucca* construction, while only 9 percent comprise *pucca* houses. (See Table 6.9)

Table 6.9: Type of Construction of Affected Main Structures

Structure Type	*Katcha*		*Pucca*		Semi *Pucca*		Total	
	m2	%	m2	%	m2	%	m2	%
Left	25,197	66.55	1,174	3.10	11,489	30.35	37,860	100
Right	22,731	45.39	6,970	13.92	20,382	40.70	50,083	100
Total	47,928	54.50	8,143	9.26	31,871	36.24	87,942	100

Source: Field Surveys, 2012, DHC

6.4.8 Affected Trees

The EIA study (2009) reported an estimated 21,000 trees to be affected. The assessment was based on an analysis of GIS/satellite data. These trees are located on the affected agricultural land but many are on mountains/hills. The Social Team was unable to make any dependable count due to time constraints and difficulties in making estimates of trees up to 1,000 m elevation level in the mountains. As per the LA processes, the District Collector will count tree numbers during their survey for compensation purposes.

6.4.9 Impact on Wage Earners

Apart from the direct impact on households, a total of 137 wage earners employed as laborers, helpers and masons will be affected by their relocation. Most of the PAPs employed as laborers are engaged in construction work in the area and transportation of timber from logging areas to KKH. A smaller number are employed as *Gujjars* looking after the livestock of *maliks* and in transportation of goods and groceries of villagers from KKH to higher elevation residences. Laborers employed as helpers are unskilled workers engaged by small restaurants and shops and also offices in the area on a daily paid basis (See Table 6.10)

Table 6.10: Affected Wage Earners

Category of Wage Earners	No. of Wage Earners Affected by Area		
	Left Bank	Right Bank	Total
Labour	38	33	71
Labour cum Helpers	47	9	56
Masons	6	4	10
Total	91	46	137

Source: Field Surveys 2012, DHC

6.4.10 Impact on Vulnerable Groups

Certain groups of population, by virtue of their socioeconomic realities, are considered socially vulnerable and thus in need of special consideration so that they can benefit from the development activities of the Project. These groups include: (a) hard core poor households; (b) female-headed households (FHH) and (c) households headed by disabled persons.

The above groups have been recognized as "vulnerable groups" under the Project. In addition to the above groups, *soniwals* who would lose their main income source as a result of the Project impacts have also been included in the list of "vulnerable households".

Table 6.11: Vulnerable Groups

Village	Nature	No. of HHs
Gummo	Differently-abled	1
Sigloo	Female Headed	1
Cheir Shial (*Gujjar*)	Landless	6
Soniwal*	Landless; no stable income	10[26]
Overall	Poor	50
Total		68

Source: Field Surveys, Detailed Design 2012, DHC
**Affected by livelihood only – not residence*

A little more than 8 percent of the total affected households were identified as falling within the category of socially and economically vulnerable groups. As detailed in Table 6.11 above, of the 68 vulnerable affected households, 74 percent comprise those losing their agricultural land thereby making them even more vulnerable. Amongst the remaining vulnerable households, 23 percent comprise landless people, followed by a female headed and a disabled (headed) household. Taking into account the socioeconomic vulnerabilities of the affected households, specific provisions and special measures have been incorporated in the RAP to ensure that they are not marginalized in the process of Project implementation.

6.5 PROJECT CONSTRUCTION/OPERATION IMPACTS

6.5.1 Impacts of the Project on Gender

The tribal, patriarchal social and cultural set-up imposes multiple constraints on women. The social and cultural environment is subjugating for women and they are suppressed. Women's mobility is restricted and limited to occasions such as weddings, deaths, Eid and for medical services. Even in a female-headed household, it was not the mother but the son who was the main decision-maker. There is no female participation in contributing to the household income, however women are involved in agricultural

[26]The total numbers of *Soniwal* Households were13 earlier, but three of them are Government servants. Thus they are not included in the vulnerable groups.

activities, tending to livestock and also wood and water collection – generally within their own homes. In other words the concept of economic earning for women is unknown or alien to women themselves. The loss of land, houses and forests due to the Project will have significant impacts on women despite the predominant culture of seclusion in the Project area. A detailed discussion on gender issues and Project impact on gender is provided in Volume 6 Gender Action Plan.

6.5.2 Traffic Safety

KKH is the life line of the northern areas as it is the only highway connecting the north of Pakistan with the rest of the country. About 2,590 vehicles per day use the KKH. Of these, nearly 15 percent are heavy vehicles and trucks that transport goods. Generally the traffic along KKH in the Project area includes a mix of cars, wagons, coasters, buses, trucks, tractors and trailers, low bed long vehicles, military vehicles, container carrying vehicles and large wheat carriers. In addition, the KKH is used by motor cycles, limited number of bicycles, herds of sheep and goats, cows and mules.

During construction, it is estimated that about 200 to 300 construction trucks per day will use KKH to supply cement and other construction materials to the site. These additional construction vehicles on KKH may cause traffic congestion and safety hazards. The increased traffic along the access roads through Komila bazar is also expected to cause congestion and safety hazards.

Further, there are no layby areas along the KKH between Pattan to Dasu, where drivers can stop the vehicles and take a rest. This is one of the common causes for traffic related accidents along KKH since drivers fall asleep during driving.

WAPDA or the contractor could avail the opportunity presented by land available on the side of KKH from Thakot to Besham, to acquire plots on rent to provide layover space for construction vehicles. Traffic facilities, such as signal lights and speed limits, are to be strengthened from Hassan Abdal to Dasu. DHP should support the local traffic authorities to engage traffic police at the busy junctions.

A traffic management plan will be prepared by the control unit before the start of their operation on the following lines:

(i) A traffic unit at Dasu is proposed to control the construction related traffic inflow and outflow with sub-offices along KKH at Hassan Abdal, Haripur, Abbotabad, Chatter Plain, Thakot, Besham, Pattan, Komila, dam site, quarry site Kaiga I. The Dasu office will be connected via telephone, fax, mobile phone and internet.

(ii) The movement of traffic carrying cement or steel to be registered at Hassan Abdal (junction of KKH and GT road). These will travel in small lots of 10 trucks. Hassan Abdal will inform the next stations by phone, fax or internet.

(iii) Weather conditions must be ascertained before the start of the journey from the Met office and drivers must be briefed so that cargo may be protected from rain damage and drivers can plan their journey accordingly.

(iv) The receiving stores must be notified, who must prepare for offloading the goods. This preparation includes the location of offloading, labour for offloading together with crane or low lift fork lifters.

(v) The load of the trucks must be less than the weakest bridge en route which, as of today, stands at 40 tons. This must be reconfirmed at the time of project implementation.

(vi) The contractor is responsible for ensuring that all construction vehicles observe speed limits on the construction sites and on public roads and for providing adequate signage, barriers, and flag persons for traffic control. All vehicles should be fitted with audible warning devices when reversing.

6.5.3 Influx of In-Migrants and Related Social Issues

The influx of construction workers to the Project site may place considerable pressure on the traditional Kohistani socio-cultural system as well as resources. Although the volume

and number of in-migrants is difficult to accurately determine at this time, a possible scenario suggests that for every job created by the Project, at least an additional 3-5 jobs will be created as a snow-ball effect to support and sustain the growing population and businesses in the Project area. Table 6.12 presents a conservative estimate of the number of in-migrants and their followers, including traders and entrepreneurs.

Table 6.12: Estimates of In-Migrants at Different Stages of Project Construction

Stage	Types of In-migrant	Number (Direct)	Number (Indirect)	Total
Pre-construction	All types of planning, design, survey, investigations, and construction-related temporary migrants, family/followers	500	400	900
Construction	Construction workers, consultants, and management staff, traders/entrepreneurs, family/followers	3000	4000	7000
Post-construction	O&M/technical advisory staff, family, support staff	1375	1500	2875

As seen, there will be at least two times or more indirect in-migrants (family, followers, service providers, etc.) than direct in-migrants as construction workers/staff for Project construction. In addition to the in-migrants, there will be foreign workers (skilled and semi-skilled) employed in the Project site. Hence, at the construction stage, Dasu will have at least double the populations than the current number of residents, putting considerable pressure on existing resources – for example, housing/shelter, land, water, power, food supplies, jobs, and transport/infrastructure – and on households and communities, threatening their general well-being and welfare.

The stakeholder consultations revealed that some locals are already concerned of tribal/ethnic tension and and conflicts between locals and in-migrants, increased crime and violence, and perhaps a general breakdown of law and order, social unrest and disruption undermining the Project work. Further, many think this will happen unless pro-active measures are taken to address the issues and to build local capacity to bridge the inter-cultural gaps and enhance understanding between the in-migrants and locals for mutual benefits. Otherwise, any reactive outcomes will likely need the intervention of security forces at the Project gate to ensure law and order, posing further reputational risks for the Project.

6.5.4 Impacts on Fishery

Downstream impact of the Dasu Hydro Project is limited to first 4.4 km, between damsite and tailrace, due to reduced flows during low flow season. A flow of 20 cumecs will be released as environmental flow in this section. Below tailrace, the instantaneous inflow to the dam will be equal to the instantaneous outflow from the dam. Hence any impacts further to the downstream of tailrace are not expected.

Generally hydropower projects will impact the downstream fish and thereby fisheries due to changes in water flow, water quality and blockage of fish migration. But these types of impacts are very limited for DHP due to the following reasons

- DHP is a run-of-river Project with a continuous flow of water to the downstream, and hence it will not alter any downstream flow
- Due to limited storage area of the reservoir (2,85 ha) and high water inflows (up to 7,000 cumecs), the water retention time in the reservoir is very low and hence impacts associated with altered water quality (dissolved oxygen and temperature) will not occur in downstream of DHP
- Very fine sediments will continue to pass through dam site. Further sedimentation will be brought to Indus through tributaries located on the downstream of the dam.

- There is no migratory fish on the Indus in the dam site. The snow carp (or snow trout), the main fish species of the project area breeds, spawns and migrates within the tributaries – not in the main Indus.

However, during construction the quality in Indus would be affected due to large scale construction activities in the river, which could further affect the fish habitat and fish. These impacts will be mitigated by the implementation of project's environmental management plans.

6.5.5 Health, Safety and Hygiene

(i) Health, Safety and Hygiene at Construction Sites

Construction sites are likely to have health and safety impacts. There will be potential for diseases to be transmitted, exacerbated by inadequate health and safety practices. There will be an increased risk of work crews spreading sexually transmitted diseases such as HIV/AIDS. Mitigation measures include: (i) provision of adequate health care facilities within construction sites; (ii) a health and safety manager, appointed by the contractor for each site, with first aid facilities readily available; (iii) training of all construction workers in basic sanitation and health care issues (e.g. how to avoid transmission of sexually transmitted diseases such as HIV/AIDS), general health and safety matters, and on the specific hazards of their work; (iv) provision of personal protection equipment for workers, such as safety boots, helmets, gloves, protective clothing, goggles, and ear protection; (v) clean drinking water and safe sanitation for all workers; (vi) adequate protection to the general public, including safety barriers and marking of hazardous areas; (vii) safe access across the construction site to people whose settlements and access are temporarily severed by road construction; (viii) adequate drainage throughout the work sites to ensure that disease vectors such as stagnant water bodies and puddles do not form; and (ix) septic tanks and garbage boxes will be set up in the construction site, which will be periodically cleared by the contractors to prevent outbreak of diseases. Where feasible the contractor will arrange the temporary integration of waste collection from work sites into existing waste collection systems and disposal facilities of nearby communities.

(ii) Health, Safety and Hygiene at Construction Camps

Camp sites for construction workers are locations that have significant impacts such as health and safety hazards for construction workers and nearby communities. The potential implications associated with housing of the immigrant workforce include generation of solid waste, adverse water quality impacts arising from discharge of partially treated sewage and refuse, public health impacts through the possible introduction of diseases not prevalent in the surrounding areas, and promotion of disease vector habitats within the temporary housing areas.

The camps should have adequate housing for all workers, safe and reliable water supply, fuel supply, waste disposal facilities, hygienic sanitary facilities and sewerage system, treatment facilities for sewerage and domestic waste, storm water drainage facilities, adequate health care facilities, and in-house community/common entertainment facilities.

The Contractor shall conduct ongoing training programs to all construction workers on basic sanitation and health care issues and safety matters, and on the specific hazards of their work and HIV awareness programming, including STI (sexually transmitted infections) and HIV information, education and communication. The contractor shall restore all the construction camps to their original condition after completion of civil works.

(iii) Health Impacts of Reservoir

Generally stagnant water bodies, like reservoirs, have a potential risk of malaria as they can act as insect breeding areas, particularly for mosquitos. But due to the fast flowing nature of inflows into Dasu reservoir, no such mosquito breeding is expected

in the reservoir areas. There were some concerns from stakeholders about breeding of the blood sucking sandfly in the reservoir. Sandfly is generally endemic to the region and found near the Chilas area (upstream area of the reservoir) and the reservoir is not expected to increase population of sandflies in the region. Based on the experience of Tarbela and Ghazi Barotha, there were no health impacts noted on the nearby communities of the reservoirs. The following mitigation measures may be required to minimize the risk of health problems in the project area if any health issues are reported:

- Monitoring of insect development in the reservoir, particularly mosquitoes;
- Adoption of some malaria preventive measures through special training of doctors in the hospitals and dispensaries and public awareness;
- Occasional conduct of anti-malaria campaigns including provision of medicines in each village around the reservoir.

6.6 EMPLOYMENT OPPORTUNITIES

The Project will have significant positive impacts on the local economy due to the creation of lots of job opportunities for the local community. The Project construction activities will require many unskilled laborers and skilled staff for more than 10 years. In this respect the Project has already commenced training people from the Project area to facilitate employment during implementation. Further, PMU has already included necessary clauses in construction contracts to facilitate the employment of PAPs and their dependents when workers for construction activities are recruited. Employment in Project construction will act as an added source of income in relation to income and livelihood restoration processes of PAPs. The construction supervision consultants will monitor the implementation of this contract condition through monthly statements submitted by the Contractor.

DHP will ensure that locals have access to work opportunities created by the Project. As noted above, people willing to work cannot be discriminated against based on race, religion, caste, residence or place of birth. However, people from the affected families with relevant qualifications would get preference for employment in the Project.

- All persons above the age of 18 years would be eligible to work in the Project
- The Project will not discriminate between locals and non-locals for employment in the Project.
- Women and members of vulnerable groups – for example, the *soniwals*– will get preference for employment and/or training for alternative employment.
- The Project will support affected households to open businesses as alternative sources of livelihood.

Local residents will also benefit from expanded opportunities for seasonal employment elsewhere to earn supplemental incomes. With the year-round access to new markets provided by the Project, village level enterprises will also prosper, promoting local economic growth.

6.7 PROJECT IMPACT ASSESSMENTS – OVERVIEW AND ANALYSIS

The impact of the Project will be considerably significant. It involves relocation of 34 hamlets/villages from the dam reservoir area from both right and left banks. The affected tribal villages will not only lose their homes, but also their terrace agricultural land due to the impounding by the dam. As a result, their traditional seasonal migration as mountain people with their herds is at risk due to constraints posed by reduced availability of land and income sources. This scenario will be aggravated by the arrival of new in-migrants and construction workers to the Project area, which will likely put their traditions and cultural system under pressure and stress – carrying the risk of conflict between locals and migrants. Therefore, safeguarding tribal cultural systems and institutions must receive due attention in resettlement planning and strategies for the Project. The Project must address the social dynamics brought about by in-migration and design policy

measures to strengthen inter-cultural understanding with a view to minimize risks to the affected communities. Finally, income and livelihood restoration programs, including alternative income sources, training, and capacity building for future employment in the Project should be a dedicated strategy in the Project. Also, the Project must choose a wide range of mitigation and benefit-sharing measures, both short and long-term, including an area development plan to support the affected communities in the long-run.

Table 6.13: Summary of Affected Population and Households

Description	Units	Quantity
AHs losing properties (housing,)	Household	767
AHs losing agriculture land	Household	600
AHs losing businesses/commercial structure (KKH)	Household	76
AHs requiring relocation and/or resettlement	Household	767
AHs losing only livelihood (Soniwals)	Household	13
Vulnerable AHs	Household	68

Source: Field Surveys 2012, DHC

6.8 PROJECT BENEFITS

As evident from the discussion so far, population densities in the Project area are low and characterized by ethnic/tribal differences with limited access to social infrastructure and services like education, health, electricity and water supply. Notwithstanding the negative impacts on the people and the environment, the Dasu Hydropower Project is expected to bring benefits in terms of improved access to improved transportation, markets, education, health care and new livelihood sources for the Project affected communities. The overall aim of the social mitigation strategy is to ensure that all affected persons are better off in the post-Project period. Long-term and potentially nationwide benefits are also expected due to massive power generation by the Project.

6.9 MITIGATION MEASURES

6.9.1 Resettlement Options

Given the past experience of resettlement in general and the Dasu Project context in particular, the Project has adopted the following strategies and options for resettlement of affected households and communities (see table 6.14).

Table 6.14: Resettlement Strategies and Options

Option	Strategies	%
Community-based Relocation to Sites in Upper Elevation	• Relocation to sites of their own choices in higher elevations where the community owns land. The sites will be developed by the Project. The plots so developed will be redistributed among the households by the community at no additional costs to resettled households. . In case of land to be acquired by the Project for site development, resettled households will pay for plots to be determined by the Project • Community decision-making with regard to site lay out and civic amenities to be established • Site-specific Relocation Planning Committee consisting of the *malik*, representatives of affected families, Director-Social/Resettlement Unit (Director-SRU) and WAPDA • Site and services development at project costs • Shifting and reconstruction grants as per the entitlement matrix	90%

Self-managed Relocation to "Down Country"	• Self-managed individual and/or families to identify destination and or site downstream and cities like Mansehra and Abbottabad districts • Project will pay all eligible compensation and benefits prior to relocation • Additional 15% of the total compensation for self-managed resettling households • Director-SRU/WAPDA to maintain the database for self-managed resettled households • No plot will be given to them in the Project developed resettlement sites	10%

The community preferred site was well received and considered practical by the *jirgas* as well as at stakeholder workshops where INGOs and NGOs, government ministries and agencies were represented. Those who want to move on their own to Dasu/Kohistan and even as far as Mansehra and Abbottabad, cited their kinship links in those places and/or availability of cheaper land for resettlement, plus more job prospects in the cities.

6.10 CHECKLIST OF EXISTING AMENITIES IN THE VILLAGES

Two checklists were administered to: (i) assess the existing civic amenities in the affected villages, and (ii) feasibility of the proposed sites in higher elevations. In all, 34 villages have been covered. Decisions for the rest were not confirmed by the village elders and *maliks* at the time of writing this report. As evident in Table 6.15, the affected villages already have a range of civic amenities in their villages. Close to two-thirds of the villages have proper access roads and drinking water supply. A large majority have power and irrigation systems. Nearly every village has a mosque. Only about one-third of villages have schools; two-thirds have latrines. There are three BHUs in the Project affected villages.

Table 6.15: Civic Amenities in the Existing Villages

Available Civic Amenities	Number of Villages	%
Access road from existing KKH	16	60
Internal road	8	30
Drinking water supply	18	67
Irrigation water for terrace cultivation	21	78
Power supply (by local mini hydel)	21	78
Schools for boys and girls	11	41
Mosque	22	82
Playground	2	7
Latrine	20	74
Community graveyard	17	67
Basic Health Unit/Dispensary	3	11
Access to market	12	44
Community Centers	3	11

The Project will rebuild all existing amenities. Additional amenities will be developed where needed so that people in their new relocated sites are better served and assisted with the requisite social infrastructure.

6.11 RESETTLEMENT SITE DEVELOPMENT

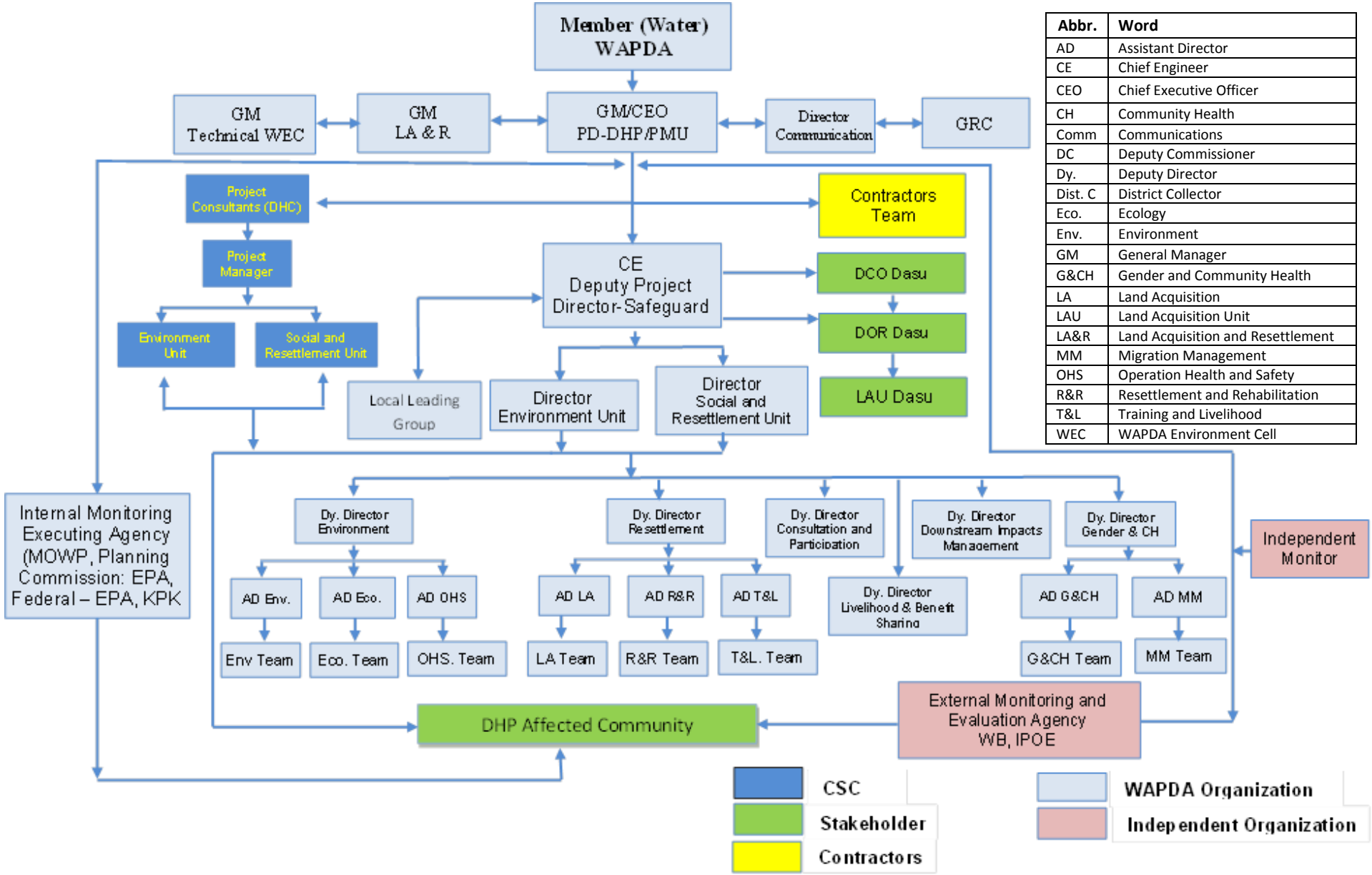
As stated earlier all the affected communities were consulted on their preferences for relocation. The Social Team visited the proposed sites along with village elders and *maliks* for initial assessment about the feasibility of each – for instance, altitude, area of land available, ownership of land and access from relocated KKH and so on. Detailed information is available on site locations, screening and layout designs, which will be further assessed by a technical team consisting of engineers, District Collector, DHP

staff along with village elders and *maliks* prior to preparing the specific plans for resettlement site development.

6.12 INSTITUTIONAL RESPONSIBILITY

The key organizations responsible for implementation of SRMP and EMAP lie with PMU/Safeguards Unit headed by the Deputy Project Director. The Project Director-PMUis responsible for technical planning, implementation and monitoring of all environmental mitigation and compensation/resettlement measures. The Construction Supervision Consultants (CSC) will be responsible for implementing measures to avoid or minimize environmental, social and health impacts during construction and ensure that the contractors fully meet their contractual and social/environmental management obligations. The implementation of SRMP and EMAP will be subject to multiple levels of monitoring by PMU/Safeguard Unit, Independent Monitoring Consultanst to be hired by WAPDA, MOWP and the Planning Commission, and the International Panel of Experts (IPOE).

WAPDA is committed to ensuring that all adverse impacts are minimized to the extent possible, and to enhancing Project benefits for the affected communities, including provisions for Project benefit sharing in the form of local area development programs. It is also committed to enhancing national and international good practices in hydropower development, mitigation and management, which should remain as examples to be drawn on by future projects in Pakistan and globally. The institutional setup is elaborated in the following figure:



Abbr.	Word
AD	Assistant Director
CE	Chief Engineer
CEO	Chief Executive Officer
CH	Community Health
Comm	Communications
DC	Deputy Commissioner
Dy.	Deputy Director
Dist. C	District Collector
Eco.	Ecology
Env.	Environment
GM	General Manager
G&CH	Gender and Community Health
LA	Land Acquisition
LAU	Land Acquisition Unit
LA&R	Land Acquisition and Resettlement
MM	Migration Management
OHS	Operation Health and Safety
R&R	Resettlement and Rehabilitation
T&L	Training and Livelihood
WEC	WAPDA Environment Cell

Figure 6.2: Institutional Setup

APPENDICES

Appendix A: List of Sampled Households and Respondents Surveyed For the Baseline Survey

River Bank	Village/Hamlet	Respondent's Name	CNIC No.	Father's Name
Left	Barseen	Rahmat Shai	Not Available	Ghulam Esa
Left	Barseen	Jander Shah	13401-1511417-3	Shair Zaman
Left	Barseen	Hijab Khan	Not Available	Hamza Khan
Left	Barseen	Abdul Bari	13401-4562312-3	Abdul Baqi
Left	Barseen	Hazir Jan	13401-1509429-9	Aman Ullah
Left	Barseen	Hamber Khan	13401-1415874-1	Qaiser
Left	Barseen	Roam Mian	13401-1503393-5	Barkati
Left	Barseen	Abdul Wadud	13401-1501186-3	Haji Anwar
Left	Barseen	Shafiq ur Rehman	13401-0631788-3	Peerzada
Left	Barseen	Aman Ullah Khan	13401-8114461-5	Toka Khan
Left	Barseen	Bahram Malik	13401-1503393-7	Barkai
Left	Barseen	Hanal Shah	13401-0205360-7	Abdul Ghafar
Left	Barseen	Abdul Hadian	13401-4899182-9	Zareen
Left	Barseen	Soan Mian	13401-1504867-7	Barkati
Left	Barseen	Ghulam saeed	13401-8799086-3	Hamza Khan
Left	Chalash	Saeed ur Rehman	13401-3164995-9	Molvi Abdul Hakem
Left	Chalash	Yaseer Khan	13401-6417575-3	Mehr Gul Shah
Left	Chalash	Basheer	13401-8082363-7	Meer gul Shah
Left	Chalash	Yaqoob	13041-1509336-5	Baradar
Left	Chalash	Saeed Ahmed	13401-7137393-5	Abdul hakem
Left	Chuchang	Zia ur Rehaman	13401-7447541-1	Shehzada Meer
Left	Chuchang	Chaloo Khan	13401-1033033-7	Hasta Khan
Left	Chuchang	Wakeel Shah	13401-1511471-1	Mian Gul
Left	Chuchang	Anwar ul Haq	13401-1504616-3	Sabtool
Left	Chuchang	Javaid Ali	13401-1507173-1	Juma Ali
Left	Chuchang	Shabir Khan	13401-1500583-3	Molvi Mehran Khan
Left	Chuchang	Shaban	13401-0927101-5	M. Ashraf
Left	Chuchang	Noor Azam	13401-2241616-1	Sadoor
Left	Chuchang	Atiq ur Rehman	13401-1505142-9	Sahib ul Haq
Left	Chuchang	Said Zar	13401-1500582-9	Raj Khan
Left	Chuchang	Hikmat Khan	13401-9723360-7	M. Asraf
Left	Chuchang	Zahoor ul Haq	13401-5339383-1	Noshairwan
Left	Gadeer	Zareen Khan	13401-2647932-5	Qalander
Left	Gadeer	Naam Dad	13401-2901677-5	Ekdad
Left	Gadeer	Mujeeb ur Rehman	13401-3929281-3	Nam Dad
Left	Gadeer	Mujeeb ur Rehman	13401-392928-3	Nam Dad
Left	Gadeer	Fazal Shah	13401-1510629-9	Hakdad
Left	Gul e Bagh	Sona	13401-3581953-0	Panchar
Left	Gul e Bagh	M. Iqbal Shah	13401-1505975-1	Samar Khan
Left	Gul e Bagh	Abdul Jaleel	13401-1506485-9	Bajal
Left	Gul e Bagh	Iqbal Khan	13401-5860281-9	Tohen Khan
Left	Gul e Bagh	Chunu Khan	13401-9265729-7	Panchu Khan

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Left	Gul e Bagh	Gulbayan	13401-6862828-3	Samar Khan
Left	Gul e Bagh	Razool Shah	13401-7333378-9	Machr Khan
Left	Kaigah	Hakem Khan	13401-1505006-1	Abdul Jalal
Left	Kaigah	Shehzada Mian	13401-0502088-5	Malik
Left	Kaigah	Haider Khan	13401-1505175-5	Khushhal
Left	Kaigah	Abdul Rehman	13401-9762647-5	Falqos
Left	Kaigah	Jandar Shah	13401-4529258-3	Sahib Jan
Left	Kaigah	Abdul Qudoos	13401-1503087-1	Ahmed
Left	Kaigah	Saif Ullah	13401-2241071-3	Kadam Khan
Left	Kaigah	Abdul satar Khan	13401-1506779-9	Qalander Shah
Left	Khoshi	Samar Khan	13401-1503157-7	Umer Khan
Left	Khoshi	Alif Saed	13401-7047305-5	Mezra Khan
Left	Khoshi	Umer Yar	13401-1505133-5	Umer Jan
Left	Khoshi	Shabir Ahmed	13401-6999142-1	Dodu
Left	Khoshi	Afsar Khan	13401-0221590-9	Samader Khan
Left	Khoshi	Peer Wali Shah	13401-7042488-7	Shair Ghazab
Left	Khoshi	Mosam Khan	13401-1500498-3	Malik lala Khan
Left	Khoshi	Gul Zarin	13401-1505989-3	Mohib Ullah
Left	Khoshi	Sajad Ali	13401-8983781-9	Dar Jhan
Left	Khoshi	Hakem Khan	13401-1507492-1	Saboot Khan
Left	Lachi Nullah	Lal Zarin	13201-1825504-1	M. Jalani
Left	Lachi Nullah	M. Safeeq	13401-4213517-5	AbulLatif
Left	Lachi Nullah	Sar Jan	13401-1508486-3	Marjan
Left	Lachi Nullah	Alam Zaib	13403-4703567-9	Malik Jan
Left	Lachi Nullah	Malik Zaboor Khan	Not Available	Malik Jamil Khan
Left	Lachi Nullah	M. Yahya	13401-6547911-1	M.Nosherman
Left	Lachi Nullah	Alam Geer	13401-9558569-7	Afreen Khan
Left	Lachi Nullah	Gul Faraz	13401-0388150-7	Raja M Arif
Left	Largani	Raat Main	13401-1511095-1	Ali Haider
Left	Largani	Adul Quaeem	13401-3631594-1	Ali Haider
Left	Largani	Adul qadar	13401-1511126-9	Ali Haider
Left	Largani	Kimia	13401-3783954-7	Rosham
Left	Largani	Abdul Malik	13401-2616132-9	Ali Haider
Left	Logro	M. Ameen	13401-4727440-3	Khan Jahan
Left	Logro	Shehzada	13401-1993481-1	Shehran
Left	Logro	Haqeem Saed	13401-8661031-5	Malik Jan
Left	Logro	Merrwan	13401-4493764-3	Khan Jahan
Left	Logro	Molvi Peer Zaman	13401-1663840-3	Noman
Left	Logro	Shair Zaman	13401-9276712-3	Noman
Left	Logro	Fazal e Rabi	13401--233633-1	Sher Zaman
Left	Logro	Khangeer	13401-562167801	Peer Syed

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Left	Logro	Shadan	13401-2552223-3	Chalu
Left	Logro	Fazal ur Rehman	13401-1511394-3	Dilair Jan
Left	Looter	Sher alam	13401-1575373-5	Gullab
Left	Looter	Ahmad Wali	13401-9273260-1	Sheran
Left	Looter	Shah Room	13401-4590955-1	Shazada Khan
Left	Looter	Badeem Khan	13401-7179029-3	Qadeem Khan
Left	Looter	Saeed Afser Wali	13401-1505773-5	Mahmood shah
Left	Looter	Saeed RaheemShah	13401-1512593-7	Peer wali Shah
Left	Looter	Sher Muhammad	13401-130569-1	Abdul Hameed
Left	Looter	Umer Badshah	13401-7733888-5	Peer Badishash
Left	Looter	Peer Saeed	13402-5049084-7	Mian Noor
Left	Looter	Saeed Zareen Shah	13401-3944437-5	Farooq Shah
Left	Looter	Gull Far	13401-0987497-3	Jameer Khan
Left	Looter	Abdul razaq	13401-3927490-3	lal zer
Left	Looter	Abdul Raouf	13401-8241894-9	Ali Muhammad
Left	Pani Bah	Ali Hider	13401-1510733-9	Barkati
Left	Pani Bah	Molvi Abdul kareem	13401-1502361-1	Faraz Khan
Left	Pani Bah	Noor Nabi	13401-0597623-7	Malik Brader Khan
Left	Pani Bah	Ilyas Khan	13401-1503974-9	Mir Subhan
Left	Pani Bah	Jumma Saeed	13401-1510297-9	Raza Khan
Left	Pani Bah	M. Akram	13401-7940131-1	Frames Khan
Left	Pani Bah	Ferooz Khan	13401-7476527-5	Mlik Sarbaz Khan
Left	Pani Bah	Abdul jabar	13401-8941358-1	Sakhawat Khan
Left	Pani Bah	Saeed Miran	13401-1503741-1	Akram
Left	Pani Bah	Noor Badsha	13401-5791724-1	Wlayait
Left	Sazin Camp	Nizam Wali	13401-9304543-7	M. Maskeen
Left	Sazin Camp	M.Maskeen	13401-6645375-5	M.Haleem
Left	Sazin Camp	Aftab Wali	13401-7275620-5	M. mustaqeem
Left	Sazin Camp	Khan Afzal	13401-5310372-5	M.Haleem
Left	Sazin Camp	Shair Afzal	13401-6931676-5	M.Haleem
Left	Sazin Camp	M.Mustaqqem	13401-6593715-1	M.Haleem
Left	Shatial	Abdul Wakeel	13401-1501411-1	Noshairwan
Left	Shatial	Shamas Khan	13401-7056882-7	Shairwali
Left	Shatial	fareed Khan	13401-0703575-7	Liyaqat Wali Khan
Left	Shatial	Satar	13401-1502231-5	Razi
Left	Shatial	M.Zaman	13401-1501404-9	Shair M
Left	Shatial	Khama Khan	13401-1501475-7	Meer Ahmed
Left	Shatial	Dil M	13401-1501408-3	Naemat Khan
Left	Shori Nullah	M. Hasan	13401-3706265-1	M. Jee
Left	Shori Nullah	Nameer	13401-4714362-7	Rustam Khan
Left	Shori Nullah	Gul Saeed	13401-4514977-7	Hukam
Left	Shori Nullah	Haji Alam	13401-7903181-7	Shair Ghazi
Left	Shori Nullah	Asghar Khan	13401-5528224-1	no
Left	Shori Nullah	Shair Khan	13401-5487171-3	Adab Shah
Left	Shori Nullah	Talawat Khan	13401-7724809-5	M.Ayob
Left	Shori Nullah	Shakar khan	13401-2531454-1	Hakeem Khan

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Left	Shori Nullah	Yaseen	13401-1415409-5	M. Jee
Left	Shori Nullah	Hussain Wali	13401-3647564-9	M.Ayob
Left	Shori Nullah	Jahangeer Khan	13401-1861271-5	Raheem Ullah
Left	Sluch	M.Ayaz	13401-1512710-5	Nowek Malik
Left	Sluch	Zol Khan	13401-1952332-7	Bota
Left	Sluch	Jamdad	13401-7374385-3	Damu
Left	Sluch	Syed Gul	13401-6852956-3	Damu
Left	Sluch	Wakeel	13401-8070018-3	maniya
Left	Sluch	M. Taj	Not Available	Tehseel Dar
Left	Sluch	Meer e Shan	13401- 6702301-0	Maniya
Left	Sluch	Gul Zarin	13401-7365930-3	Maniya
Left	Sluch	Malok	13401-4901847-7	Umer Dad
Left	Sluch	Syed Jan	13401-7913407-7	Damu
Left	Sluch	Qadriya	13401-0468484-3	Khadi
Left	Summer Nullah	Saeed Fazal Akber	13401-5451472-9	Nasia gull Khan
Left	Summer Nullah	M.Deen	13401-9710216-5	Shuker Wali
Left	Summer Nullah	Saeed Allah	13401-1680465-1	Shuker Wali
Left	Summer Nullah	Derman khan	13401-5133457-3	Adul khaliq
Left	Summer Nullah	Abdul Basir	13401-2454021-5	Sawal Khan
Left	Summer Nullah	Shuker wali	13401-1359770-1	Akram
Left	Summer Nullah	Hazrat Ali	13401-9451327-1	Bhader Shah
Left	Summer Nullah	M.Alam	13401-1302469-7	M.Sharif
Left	Summer Nullah	Bhato Khan	13401-9188170-1	Raja Khan
Left	Uchar Nullah	Noor Wali Qalander	13401-9007709-7	Qalander
Left	Uchar Nullah	Abdul rehman	13401-7372391-5	Bilal Khan
Left	Uchar Nullah	Noor M	13401-9676247-7	Haji Qalander
Left	Uchar Nullah	Khair ar Zaman	13401-7228094-5	Sarom Khan
Left	Uchar Nullah	Noshair Khan	13401-1501676-9	Sarom Khan
Left	Uchar Nullah	M. Jan	13401-6042125-9	M. Afsar Jan
Left	Uchar Nullah	Walayat Noor	13401-1505046-9	Razool
Left	Uchar Nullah	Gul shair Jan	13401-1505309-9	Shair Dat
Left	Uchar Nullah	Abdul Wadod	13401-1504388-7	Razool
Left	Uchar Nullah	Noor Wali	13401-1459163-1	M. Ameer
Left	Uchar Nullah	Abdul rehman	13401-1511411-9	Rosham
Left	Uchar Nullah	Abdul Jaleel	13401-1505128-1	Rosham
Left	Uchar Nullah	Abdullah	13401-1509005-7	Qalander
Left	Uchar Nullah	Shair Ghasab	13401-1509076-7	Roshan
Left	Uchar Nullah	Syed Jamil	13401-7290758-3	Qalander
Left	Uchar Nullah	Noor M	13401-9793449-3	M. Afsar
Left	Uchar Nullah	Ehsan ayuob	13401-1511899-9	Charagh-ud-Din

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List of Respondents Surveyed For the Baseline Survey

River Bank	Village/Hamlet	Respondent's Name	CNIC	Father's Name
Right	Cheer Shial	M. Sher	13401-2724302-3	Anwar
Right	Cheer Shial	Alam Sher	13401-6258726-3	Anwar
Right	Cheer Shial	Koshal	13401-1509309-3	Darya
Right	Cheer Shial	M. Aslam Khan	13401-1500179-9	Darya
Right	Cheer Shial	Azeem Khan	13401-1503031-1	Qadeer Khan
Right	Cheer Shial	M. Shabeer	13401-2724301-3	Anwar
Right	Cheer Shial	Rehman	13401-8062507-5	Fazal Rehman
Right	Doonder	Nabi ul Haq	13401-0338918-5	Roshan
Right	Doonder	Zareen	13401-6105099-7	Akbar Khan
Right	Doonder	Hoor Mohammad	13401-9387692-1	Abdur Razaq
Right	Doonder	Nazir Shah	Not Available	Roshan
Right	Doonder	Jamal	Not Available	Roshan
Right	Doonder	Roshan	13401-5788732-1	Alif Din
Right	Gummo	Fazal ur Rehman	13401-208109407	Mer Dali
Right	Gummo	Abdur Rasheed	13401-5124367-9	Jamdani
Right	Gummo	Saed Alrehmat	13401-2512264-1	Khast Ali
Right	Gummo	Jama Gul	13401-6806084-1	Neem Salar
Right	Gummo	M. Ayub	13401-5041073-1	Hajji
Right	Kai Dogah	M. Muneer	13401-6187372-5	Molvi Fazil
Right	Kai Dogah	M. Muneer	13401-9727126-7	Haji Bhot
Right	Kai Dogah	M.Azam	13401-5061119-9	M.Aziz
Right	Kai Dogah	M. Nawaz	13401-9681211-1	M. Fazil
Right	Kai Dogah	Mahmood Alam	13401-15082819	Molvi Fazil
Right	Kai Dogah	Jan Mohd.	13401-8886034-7	Haji Bhoot
Right	Kass	Fazal Rabi	13401-2677052-7	Shamghan
Right	Kass	Shamser Khan	13401-3997514-3	Islam Khan
Right	Kass	Zia ur Rehaman	13401-4288375-5	Abdul Khaliq
Right	Kass	Fazal Illahi	13401-4694249-9	Naqeeb
Right	Kass	Jibrail	13401-5572651-7	Samad Khan
Right	Soniwal	Nazir	13401-3728157-5	Shair Wali Khan
Right	Soniwal	Abaid Ullah	71203-9741919-7	Soam Khan
Right	Soniwal	Rozaiman	71203-3582498-9	Rustam Khan
Right	Soniwal	Hijab Khan	71203-2313360-1	Azeem Khan
Right	Soniwal	Ilyas	71203-7324686-5	Khan
Right	Soniwal	Baber Khan	71203-2314158-7	Sabar Khan
Right	Soniwal	Son Khan	71203-2311649-7	Sabar Khan
Right	Soniwal	Israfial	755-77-195350	Hazrat Naqeeb
Right	Soniwal	Shair Alam	71203-9221762-3	Mohd. Yousaf
Right	Soniwal	Fazal ur Rehman	71203-2399448-3	Mehr Jalal
Right	Soniwal	Umer Hayat	71203-0758252-3	Fazal Mohammad
Right	Komila	Atta Ullah	13401-6305223-5	Dildar Khan
Right	Komila	Nawab Khan	13401-4015899-7	Gul Hazar
Right	Komila	Fazal Ahmed	13401-9222312-1	Chakeer Khan

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Right	Komila	M. Shoaib	13401-8375317-9	Gohar Jan
Right	Komila	M. Wakeel	13401-1504092-5	Zamin
Right	Komila	Gul Hazar	13401-3253564-1	Shair Afzal
Right	Komila	Farmas Khan	13401-1508306-9	Imraa Khan
Right	Komila	Gul Shehzada	13401-7482599-9	Mataan
Right	Komila	Shah Faisal	13401-0992317-3	Haji Dosham Khan
Right	Komila	Qilar Shah	13401-1504961-3	Qalander
Right	Komila	Wasil	13401-1504000-7	Ahmed Ali
Right	Komila	Meer Afzal	13401-3372677-5	Jamal Khan
Right	Komila	Ayuob Khan	15602-1033318-3	Mian Noor Shah
Right	Komila	Abuzar	13401-4968986-7	Abdul Shakoor
Right	Komila	M. Hajan	13401-1504267-7	Zamin
Right	Komila	Fazal ur Rehman	13401-1893286-3	Lani Malik
Right	Komila	Muneer M	13401-7505212-9	Sheeda
Right	Komila	Doraj Khan	13401-5925028-1	Abdullah
Right	Komila	Ameer Syed	13401-4938477-3	Istafa Nosh Malik
Right	Kot Gal	Ahmed Jan	13401-1512577-7	Jafer Jan
Right	Kot Gal	Gulab	13401-7431213-9	Rajam
Right	Kot Gal	Taj M	13401-1505533-9	Haji Safi
Right	Kot Gal	Tariq Mehood	13401-7559746-3	Gulab Khan
Right	Kot Gal	Shair Ali	13401-6179572-7	Gul Dad
Right	Kuz Kai	M. Abraheem	Not Available	Haji kareem Dad
Right	Kuz Kai	Abdullah Khan	13401-5277062-3	Aslam Khan
Right	Kuz Kai	Meer Alam Khan	13401-0374019-1	Kalola
Right	Kuz Kai	M.Ameen Khan	13401-1503315-7	Jamdad
Right	Kuz Kai	M.Younas	13401-1503334-5	Peer Dad
Right	Kuz Kai	Amir Khan	13401-1501368-1	Abdul Raheem
Right	Kuz Kai	Fazal Rabi	13401-6737522-3	Shamtoo
Right	Kuz Kai	Lal Marjan	13401-6480246-9	Molvi Faazal
Right	Kuz Kai	Mahmood Khan	13401-2995908-5	Abdul Raheem
Right	Kuz Kai	Ameer Nawab	13401-4104983-9	Gull Raat
Right	Kuz Kai	Nosherwan	13401-3439953-1	Mira khan
Right	Kuz Kai	Wali Dar	13401-1924196-5	Haji Sawab
Right	Kuz Kai	Wali Muhammad	13401-1833371-1	Abdul Raheem
Right	Kuz Kai	Dosham Khan	13401-9595256-3	Samander Khan
Right	Kuz Kai	Habib-ul-Rahman	13401-7394957-3	Shamtoo
Right	Kuz Kai	Akhter Munir	13401-2509697-9	Shareen
Right	Kuz Kai	Fazal-ul-Rahman	13401-4606855-9	Shamtoo
Right	Melar	Badar Munir	13401-0572512-1	Badar Munir
Right	Melar	Molavi Shabeer	13401-15090401	Qalash meer
Right	Melar	M naseer	13401-6137900-3	Qshrif Khan
Right	Melar	M.Nabi	13401-1509525-3	Musharaf Khan
Right	Melar	M.Naseer	13401-6137900-3	Ashraf khan
Right	Melar	Munir	13401-1508414-1	Qalash Meer
Right	Melar	Hadees	13401-1503255-5	Toola

Right	Melar	Shams-ul-Rahman	13401-7299232-3	Qalash meer
Right	Melar	M. Noor	13401-4989431-5	Gullab Khan
Right	Not Bail	Khan Bahadur	13401-6115858-3	Tehseel Dar
Right	Not Bail	Ehsan Ul Haq	13401-9651663-9	Lal Khan
Right	Rango	Abdul Ghafoor	13401-1507278-3	Noor Khan
Right	Rango	Mehmood ul Hasan	13401-8394166-1	Sahibzada
Right	Rango	Ameer Nawaz	13401-1954581-9	Gul Nameer
Right	Rango	Ameer Jan	13401-9285543-3	Eshmat
Right	Rango	Sahibzada	13401-1504381-1	Malik
Right	Rango	Abdul Kazim	13401-1504377-9	Sahib Zada
Right	Rango	Simt Khan	13401-15044088-5	Akko
Right	Rango	M. Saleem Khan	13401-0921282-9	Gul Zarin
Right	Seer Gayal	Altaf Hussain	13401-4328663-9	Syed Ali
Right	Seer Gayal	Javaid Iqbal	13401-8717060-5	Noor Umer
Right	Seer Gayal	M. Mehran	13401-15062252-9	Syed Alim
Right	Seer Gayal	Ainayat Ullah	13401-1508172-5	Nameer Khan
Right	Seer Gayal	M. Ismail	Not Available	Haji Taj Mohd.
Right	Seer Gayal	Shaheen Shah	13401-2296136-5	Taj Mohd.
Right	Seer Gayal	Abdul Qiyom	13401-1508164-7	Abdul Haq
Right	Seer Gayal	Sayed Ahmed	13401-0840293-1	Syed Faqeer
Right	Seer Gayal	M. Muneer	13401-0822089-7	M. Wali
Right	Seer Gayal	Gul Mohammad	13401-9994751-1	Saeed Ullah
Right	Seo	Abdul Wahab	13401-9171321-3	Khan Mohammad
Right	Seo	Dosham Khan	13401-1500075-5	Zibt e Allah
Right	Seo	Anwer Shah	13401-1503219-3	Molvi M. Kareem
Right	Seo	Akhter Muneer Khan	13401-7660788-9	Ronida
Right	Seo	Abdul Majeed	13401-3497072-3	Dusham Khan
Right	Seo	Muzamil Shah	13401-5573023-1	Faseh Ullah
Right	Seo	Abdul Matten	13401-0141509-7	Malik Skeikh
Right	Seo	M .Sadiq	13401-9910328-9	Hameem
Right	Seo	Aslam Khan	13401-1264502-5	Ghulam Amjad
Right	Seo	Mehmood ul Hasan	13401-1503830-7	Molvi M Karem
Right	Seo	Shahzada	13401-1503204-7	Ali Dad
Right	Seo	Mushtaq Ahmed	13401-1500065-3	Mahmood Amir
Right	Seo	Anwar Ali	13401-7614071-7	Malik Ahmed
Right	Seo	Muzamil Khan	13401-9638459-9	Mast Khan
Right	Seo	Izhar Ullah	13401-7222798-5	Afsar Khan
Right	Seo	UbaidUllah	13401-9274366-9	Khan Bahadur
Right	Seo	Malik Hakeem Khan	13401-1508531-1	Burraq malik
Right	Seo	Ahmed Nabi	13401-7841430-3	Malik Shahdad
Right	Seo	M.Shah	13401-6291424-9	Alhaj Malik
Right	Siglo	Jamars	13403-6077941-7	Boliya
Right	Siglo	Abdul Wahid	13401-1562143-5	Molvi A. Ghafoor
Right	Siglo	Ashraf Khan	13401-9144306-1	Salmadar
Right	Siglo	M. Ghani	13401-1751076-9	Rasool Khan

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Right	Siglo	M. Bani	13401-5869928-9	Jamdad
Right	Siglo	Jan Mohd.	13401-8757245-1	Abdil Satar
Right	Siglo	M. Mujtaba	13401-8516273-1	Wali Dar
Right	Siglo	Roshan	13401-3778964-9	Saeed Umer
Right	Thuti	Nazir Khan	13401-1502913-3	Chalo Mailk
Right	Thuti	Shakar Zaib	13401-1504644-5	Aftab
Right	Thuti	M. Ashraf	13401-1502930-7	Haji Syed Akbar
Right	Thuti	Amal Dar	13401-0589007-1	Firdous
Right	Thuti	Dedar Shah	13401-1502929-3	Abdul Shakoor
Right	Thuti	Saif ul Malok	13401-2320935-5	Jamroz
Right	Thuti	Sair Jan	13401-44709953-3	Haji Abdul Shakor
Right	Thuti	Shah Alam	13401-6678507-9	Hukam Khan
Right	Thuti	Baber Khan	13401-1502909-5	Malik Nawab
Right	Warisabad	Hukm Dar	13401-6890912-3	Abdul Satar
Right	Warisabad	Ainayat Ullah	13401-1372984-7	Naji Khan
Right	Warisabad	Naji	13401-1507878-9	Topak malik
Right	Warisabad	Abdul Waris	13401-1507111-5	Naji
Right	Warisabad	Abdul Satar	13401-1502763-9	Topak Khan

Appendix B: Analysis of Poverty, Conflict and Development Nexus in Dasu

PART I - DEVELOPMENT AND CONFLICT

The correlation between poverty and conflict, development and peace building is now well-recognized all over the World and especially in Pakistan. While the link between poverty and conflict is not absolute – there are many poor societies which are not in a state of conflict, and many relatively developed societies where conflict is prevalent. In general, poverty increases the likelihood of conflict. Conversely, development efforts to reduce poverty create jobs and promote economic growth can significantly contribute to conflict reduction and peace building. These links are elaborated below:

Poverty and Conflict

Comparison of conflict levels between developed and developing countries show these to be higher in the latter. A statistical analysis[27] of all civil wars around the world between 1965 and 1999, found that the typical low-income developing country faced around a 14 percent risk of civil war in any five-year period. Assessment of the social, economic, political and historical conditions for each country, to identify the most important risk factors, revealed that these were all economic: level of per capita income, rate of growth and its structure. The study found that doubling the level of income halved the risk of conflict; a percentage point on the growth rate reduced the risk by around a percentage point. The study also found that other factors such as ethnic diversity, religious differences, political rights and colonial history were not important in *causing* conflicts.[28] Where conflicts occurred in heterogeneous societies, they were likely to be organized along ethnic or religious lines, and the rhetoric was likely to be that of ethnic grievance, but:

The same differences, the same grievances, the same personalities, can generally be harmlessly contained in the context of a middle-income country with a growing and diversified economy yet may be explosive in the context of poverty.[29]

Similarly, within countries, conflict levels are higher in less developed sub-national regions. South Asia is among the most violent regions in the world. Analysis of conflict incidents in South Asian countries, shows these to be concentrated in the most developmentally backward areas: India – Bihar, Jharkhand, Orissa; Sri Lanka – the north; Pakistan – Balochistan, FATA and KPK.[30] 'Lagging regions have experienced more than three times the number of terrorist incidents per capita, compared with leading regions, and almost twice as many deaths per head of population in such incidents'.[31]

It should be stressed that not all under-developed regions are riven by conflict, and not all developed regions are immune from this. Punjab state in India, for example, has one of the lowest levels of poverty in the country, and yet has seen violent conflict in the past; similarly parts of Bihar have chronic, severe poverty and yet are more peaceful than some of the less poor parts of the state. These examples show that conflict is multi-causal, and it is the complex interplay between different factors that can lead to conflict in one setting but the absence of this in another. However, they do not alter the fundamental point that poverty is a significant factor *increasing* the risk of conflict in any context. As UK International Development Secretary Clare Short noted:

"We know that most wars and armed conflicts are now taking place in the world's poorest countries - and within states rather than between them. We know, too, that many of the

[27] Paul Collier, *Development and Conflict,* (Centre for Study of African Economies, Oxford University, October, 2004)
[28] It should be noted that the existence of marked inequities between different ethnic/linguistic/religious groups or the overt domination of one over another/others can cause conflict
[29] Collier, *op. cit*., p. 4.
[30] Ejaz,Ghani and Lakshmi Iyer, *Conflict and Development,* (23 March 2010), http://www.voxeu.org/article/conflict-and-development-lessons-south-asia, accessed on 31 August 2012
[31] Ibid.

new international security challenges - terrorism, mass migration, rapid population growth, and environmental degradation, political and religious extremism - are caused or exacerbated by failures of development".[32]

How does poverty and deprivation increase the risk of conflict? Poverty is defined not simply in economic terms (lack of money and assets) but also in terms of opportunities: poverty equates to a lack of opportunities, be it to access health care, clean water, education, employment, housing and so on. Poverty thus makes people miserable, desperate, frustrated and angry. It makes them more likely to resort to crime and other violent means to meet their basic survival needs; it makes them more likely to fight over scarce resources. Frustration and anger reduce support and loyalty for the government and even for the state (leading to secessionist movements). As well as anti-government or anti-state rhetoric, this can be vented out as hostility to other groups (ethnic, religious and so on). Critically, poverty and frustration can make people more receptive to extremist ideologies.

'Low and declining incomes, poorly distributed, create a pool of impoverished and disaffected young men who can be cheaply recruited by "entrepreneurs of violence".'[33] There have been numerous documented cases (e.g. in Zaire) of young people, in particular, being drawn to join militant groups because of the material benefits they offer. In parts of the Muslim world, they are drawn both by ideology and material gains: the militants, for example, in Pakistan's FATA belt pay recruits an average PKR 15,000 per month (compared to PKR 6,210 per month for an unskilled laborer), a hefty incentive in a region which:

...hosts among the largest demographic segments of unemployed young men in the country; this base of young men has been exploited as the most critical human resource pool for rank-and-file militants. In the absence of substantial, competitive economic alternatives, financial incentives provided by the militant groups sway many of those remaining.[34]

The World Bank report "*Breaking the Conflict Trap: Civil War and Development Policy"* concludes:

The overall trend in the global incidence of conflict is made up of two radically divergent components. For most of the world's population development has been significantly reducing risks, but a significant minority of people live in low-income countries that have not shared in development. For them the risks have been increasing.

As already noted, ethnic identification – though not causal - can often become more pronounced in the course of conflict. This was seen in the former Yugoslavia, where identification along ethnic and religious lines – Serb, Croat, Bosnian, Muslim, etc. – increased greatly.

Impact of Conflict

The impact of conflict is both extremely damaging and extremely widespread. Immediate consequences are of course loss of life and injuries, both among armed combatants and the civilian population. Others include destruction of property, disruption of services, disruption of industry and commerce, leading in turn to loss of livelihoods and economic downturn. [Economic loss is also caused by the diversion of resources to the conflict.] If violence persists and/or is intense, conflict often leads to massive internal displacement of populations as people flee to safer areas. The refugee population in turn

[32] 'Security, Development and Conflict Prevention', Speech to Royal College of Defence Studies, 13 May 1998,http://webarchive.nationalarchives.gov.uk/+/http://www.dfid.gov.uk/news/speeches/files/sp13may.html, accessed in August 2012.

[33] *Breaking the Conflict Trap,* op. cit. p. 4

[34] *Post Crisis Needs Assessment Khyber Pakhtunkhwa and FATA,* (ADB, DFID, EU and World Bank, September 2010), p. 33

places stress on host communities, resources and services in the areas they flee to. Spread of disease is common under such conditions, with lack of water and adequate food, as well as sanitation facilities.

Conflicts in the twenty-first century are far more frequently waged between different groups within a country, than between different countries. However, this does not stop them spilling over into neighboring countries. Where ethnic groups straddle borders, members in one country will often join the fight alongside their 'ethnic brethren' in another Other groups/governments could get involved for other reasons (prospect of land seizure, to undermine a hostile government, and so on), leading to a widening of conflict. Other countries can also be drawn in to provide humanitarian assistance or even troops/peace-keeping forces.

Conflict situations provide a favorable environment for drug production and for (international) terrorist groups – the effects of which are felt across the globe. Conflicts beginning in one country can thus have a destabilizing effect across a much wider region, in turn impacting global stability and security. The long-term impact of conflict is equally detrimental. Post-conflict countries can take years, if at all, to recover to pre-conflict levels of growth and prosperity. A history of conflict deters investors, making reconstruction difficult. People get caught in a poverty trap. While poverty is one of a number of factors that can lead to conflict, there is absolutely no doubt that *conflict exacerbates poverty*. One study calculated that: 'after a typical civil war of seven years duration, incomes would be around 15 percent lower than had the war not happened, implying an approximately 30 percent increase in the incidence of absolute poverty'.[35] It is no coincidence that the developing countries furthest away from achieving the MDGs are those in the midst of armed conflict or only recently emerging from it. Factors like displacement and disruption of health and education services affect the development of children and undermine their future opportunities.

More critically, countries get caught in a conflict trap – those that have experienced conflict once are highly prone to renewed conflict. 'The typical country reaching the end of a civil war faces around a 44 percent risk of returning to conflict within five years.'[36] This is not only because the factors that led to conflict in the first place are likely to still be prevalent when conflict ends, but also because these will typically have been made worse by conflict. The negative impact of conflict on economic growth, and thus its poverty-increasing effect, is particularly relevant here. The capacity of governments to prevent conflict will be diminished, while groups with interests in promoting conflict will find it easier to do so. Other factors, such as the legacy of hatred left by conflict and the breakdown of social capital, also make a return to conflict highly likely.

Development, Poverty and Conflict Reduction

The flip side of poverty is development, and the flip side of conflict is peace. Just as poverty is a significant factor increasing the risk of conflict, so development can promote conflict reduction and bring about peace.

There is consensus on the connection between development and poverty reduction, albeit not wholly on the *kind* of development that is effective. Since World War II there has been recognition within the international community, and specifically developed industrialized countries, of the importance of helping the so-called 'Third World' to come out of poverty through development. Over the past sixty-plus years the focus of development efforts has shifted repeatedly: unconditional grants and loans, focus on large infrastructure projects, technical support and capacity building, focus on governance reform and use of national systems, gender equity, community participation, environmental protection, and so on. The debate over what kind of development is most

[35] *Breaking the Conflict Trap,* op. cit., p. 17
[36] Ibid, p. 83

effective in achieving the goal of poverty reduction is beyond the scope of this report; suffice to say that, if done properly, development can reduce poverty.

The focus of this report is on the link between development and conflict reduction/prevention, between development and peace. Experience in numerous conflict situations has shown that security measures alone cannot achieve sustainable peace. Until the root causes of conflict – commonly poverty, inequality, deprivation – are addressed, simply defeating armed groups will not work.

Increasingly, it is being acknowledged that development has an important role to play in security, that development can be a key tool for conflict prevention/reduction.

This view was echoed by the UN Secretary-General 2000: 'The prevention of conflict begins and ends with the promotion of human security and human development', and 'every step taken toward reducing poverty and achieving broad-based economic growth – is a step towards conflict prevention.'[37]

Development promotes conflict prevention/reduction by 'building stakes in peace':

Where there is greater equity in the distribution of resources, where people have access to basic services, employment opportunities, and therefore a real stake in the economicsystem, the risks of violence are reduced.[38]

Development removes the sense of deprivation and frustration felt by the poor, it gives them access to services, it gives those opportunities and hope for the future, it provides them with jobs, and it improves the basic conditions of their lives. In all these ways it undermines the incentives to resort to violence and conflict – it means people have something to lose by doing so, and thus makes them stakeholders in peace.

Of course, it is important to promote the 'right' kind of development. As explained above, there is debate about precisely what this entails, and requirements will differ from one context to the next. But basic conditions for development to achieve conflict prevention/reduction include: bringing about economic well-being, promoting freedom and choice, social stability and justice, good governance, and respect for individual and minority rights. 'At some point, these supporting beams, working together, do seem to provide a solid foundation for internal peace.'[39] [If development is not carried out properly, it can itself fuel or exacerbate conflict – this point is explored in Part C of this report.]

In conclusion, development can be a significant factor in bringing about peace and stability. There are many caveats with this assertion, and often other factors will need to be incorporated or addressed in order to achieve the desired results (e.g. cutting off sources of financing for non-state armed groups, political reforms). But without efforts to promote economic growth and alleviate poverty, conflict prevention/reduction will be extremely difficult.

An example of this development-oriented approach to security is seen in Pakistan. Following the conflict in parts of Khyber Pakhtunkhwa (KPK) and FATA region, which caused large scale loss of life, destruction of property and massive displacement of civilians, international development partners supported the government to conduct a post-crisis needs assessment (PCNA). The PCNA identified the underlying causes of conflict in the region, and delineated four strategic objectives to bring about sustainable peace: political and governance reforms; ensuring delivery of basic services; stimulating employment and livelihood opportunities; and countering radicalization and fostering reconciliation. The stress on services and jobs highlights how effective these can be in countering militancy.

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[37] *UN Millennium Report of the Secretary General*, (New York, 2000), p. 45 cited in *Development Dimensions of Peace-Building*, (UNDP, February 2003), p. 18.

[38] Clare Short, *op. cit.*..

[39] *Development Dimensions of Conflict Prevention and Peace Building,* op. cit., p. 18.

CASE FOR DASU HYDROPOWER PROJECT

Project Summary

Dasu Hydropower Project was included in the Government of Pakistan's Vision 2025 program and Power Policy 2013, as part of a number of measures for water resources and hydropower development. The overall cost of this development was estimated at between US$ 25-33 billion, and would generate an additional 16,000 MW through hydropower.

The project site is located on the Indus River 7 km north of Dasu in Kohistan District, and 350 km north of Islamabad. It is approximately 74 km downstream of the Diamer-Bhasha Dam site. The proposed hydropower plant will have an installed capacity of 4,320 MW, with annual energy generation of 21,300 GWh.

The Case against Dasu Project

At first glance, Pakistan would not appear to be a conducive place for a multi-billion dollar major infrastructure project, relying on considerable international funding. As seen in Chapter 1the country faces considerable challenges with regard to governance and security. The latter in particular is a major deterrent to long-term investment: media reports regularly feature terrorist attacks and unrest in different parts of the country. The government is widely perceived as failing to address the country's problems and needs. Hence Pakistan does not present an appealing image to the world.

There are also those opposed to the Dasu Hydropower Project on 'technical' grounds: the project will lead to displacement of large numbers of people; it could have negative social and environmental impacts; it is a huge investment – instead of pumping billions into such mega-projects it would be more cost-effective to make improvements to the existing irrigation and water network, and to use water more efficiently as well as explore alternative energy sources.

The Case for Dasu Project

While it is true that Pakistan does not appear an ideal candidate for investment in a massive infrastructure project, and operating there does pose serious challenges, nonetheless there are also opportunities and much that offers hope.

Pakistan's situation could be summed up as follows: the country stands at a fork, with one path leading to development and growth, drawing on its demographic dividend (the relative strength of the working age population), vast natural resources and economic potential. The second path leads to under-development, poverty, social unrest, political instability and possibly even civil war. All the analysis points to development and economic growth are the key tools to ensure Pakistan's prosperity. The Dasu Hydropower Project can make a significant contribution in this regard.

Energy

Pakistan faces an energy crisis. This was elaborated in Chapter 2. The country is unable to meet demand for power, and the gap between demand and supply is widening. The impact of the energy crisis is already being felt in extended power cuts, disrupted services, reduced economic growth. It is also increasingly being manifested in public protests. Construction of the Dasu Hydropower Dam can provide Pakistan with an additional 21,000GWh-plus generation capacity. Moreover, this will come from an indigenous, environmentally 'clean' source. It can act as a spur for further investment in hydroelectric power, as well as other energy sources.

Water

Pakistan is already water stressed country, and is rapidly heading toward becoming a water scarce country. While several of the factors responsible for this – notably global warming – are beyond the country's control, others stem from mismanagement and poor planning. Improvements in water use efficiency, notably in agriculture, and enhanced water storage capacity are measures that could help alleviate the crisis. The Dasu Hydropower Project will help improve water management in Pakistan, and be an important step in dealing with its water problems.

Development and Conflict

The correlation between poverty and conflict, development and conflict prevention/reduction elaborated in Chapter 3 is particularly applicable to Pakistan. It is an under-developed country facing numerous challenges in meeting the needs of its growing population; poverty levels are high, development indicators are poor. On top of this common denominator of poverty and weak economic growth, are numerous other conflict inducing factors not least, religious extremism. As seen in Chapter 3, development – provision of basic services, creation of livelihood opportunities, economic growth – can prove an effective barrier to conflict. Supporting development in Pakistan (such as the Dasu Project) could help promote stability and peace in the country. The specific benefits – job creation, infrastructure development, and improved power supply and so on – can do much to generate development and growth in all sector life.

Conclusion

The above analysis explores the links between poverty, development and conflict, and refers to the impact of the Dasu Hydropower Project *on Pakistan as a whole*. The Project will of course, first and foremost, impact the area in which it is implemented, i.e. Dasu and Kohistan District. The links between poverty, development and conflict are just as valid for the project area as for the whole of Pakistan. However, these will be explored after an analysis of the situation (in terms of development, existing conflicts, security threats, etc.) within Kohistan – the subject of Part B of the report.

In conclusion, while Pakistan presents far from the ideal investment scenario, and there is very valid security and other concerns associated with any major project planned in the country, the bottom line is that Pakistan must remain on the path to development and progress. Moreover, there have been several developments in recent years which hold the promise that Pakistan's future can be brighter. Pakistan needs encouragement and support from the international community to turn away from extremism, instability and insecurity, and towards good governance, economic growth and prosperity. The Dasu Hydropower Project can be a major contribution in this regard. This is why it is not only feasible but essential for Pakistan.

PART- II SITUATION ANALYSIS OF PROJECT AREA

CONFLICT MAPPING

Profiles of the Region

Geography

The District of Kohistan is part of Khyber Pakhtunkhwa province. It is bounded to the north and northeast by Ghizer and Diamer Districts of Gilgit-Baltistan, to the southeast by Mansehra District, to the south by Battagram District, and to the west by Shangla and Swat Districts of KPK. The total area is 7,492 sq. km.

Kohistan is predominantly mountainous (the name means 'land of mountains'), but there are dotted agriculture areas. The Indus River divides the district into two parts, referred to as Swat Kohistan (on the right bank) and HazaraKohistan (on the left bank). Swat Kohistan used to be administered by the Wali of Swat, while HazaraKohistan used to be managed by the Political Tehsildar of Oghi, and later by the Political Tehsildar of Battagram. In 1976 the two parts were merged to form Kohistan District. Kohistan comprises four Tehsils: Dasu, Palas, Pattan and Kandia. Dasu is the district headquarters.

The main towns on the Swat Kohistan side (Right Bank) are Bankhar, Dubair, Jijal, Pattan, Keyal, Seo, Raziqa, Dugah, Kandia and Gabral, while on the Left Bank the main valleys/villages areBatera, Kolai, Palas, Jalkot, Chuchang, Barseen, Kaigah,SummarNullah, Sazin, Shatial and Harban.

People

According to the 1998 Census, the total population of Kohistan was 472,579 with an average annual growth rate of 0.09 percent. The male to female ratio was 124.4. At the time of the 5th Population Census, Kohistan had three Tehsils, of which Dasu had the highest population with 184,746; Palas had 165,613; and Pattan 122,244. Population density was 63.1 people per sq. km.

Economy and Development

The 1998 Census placed Kohistan bottom in the country in terms of socioeconomic development indicators. It reported the district's literacy rate among those aged 10 years and above, as 11.1 percent, but there were significant gender differences: male literacy was 17.23 percent and female literacy is 2.95 percent. The total school enrolment rate was 6.89 percent (10.60 percent for males and 1.34 percent for females).

The proportion of the population working/employed was 26.4 percent, equivalent to 70.53 percent of the total labor force. Of the total employed population, 71.60 percent were self-employed, 10.68 percent worked as employees and 17.32 percent were unpaid family helpers.

The main sources of livelihood are agriculture, livestock and forest products. Given the mountainous terrain, flat cultivable land is very limited and there is a high degree of terrace agriculture. People usually keep livestock – goats, sheep, even cows and bullocks – and the search for pasture is one reason for the seasonal migration between low and high altitudes. Milk is generally not sold, but milk products are, notably ghee (clarified butter). Honey is another source of income. People tend to depend for cash income on sale of forest products: timber (deodar, pine, spruce), firewood, walnuts and walnut bark (*dhandasa)*. There is only one main road into Kohistan, the Karakoram Highway (KKH). Commerce and trade is focused on points along the KKH – Dubair (though this was badly damaged by recent 2010 floods), Pattan, Kamila, Dasu and Shatial. In the winter season, many local men go to larger urban areas in search of work. With a rise in education and greater awareness, more people are seeking jobs in government employment.

Existing Conflict Issues

Right Bank (Swat Kohistan) and Left Bank (HazaraKohistan)

People on both sides of the river see each other as *ghair* or different: *'hum aurhain, woaurhain'* ('we are something else, they are something else'). The river has traditionally formed a strong physical barrier preventing interaction between the two sides. They also have a different history – the Right Bank was part of Swat, the Left Bank of Hazara – and speak different languages. Kohistani is spoken on the Right Bank, and Shina on the Left; each side can understand the other, but not speak their language. Due to its having been ruled by the Wali of Swat, there is more education and development on the Right Bank than the Left. The tribal system exists on both sides of the river, but is stronger and more organized on the Right Bank.

There is now some social interaction between the two sides, and in recent years there have even been a few inter-marriages. But the general perception of each as 'the other' persists. A police constable from Pattan reported that he sees colleagues from villages in Swat Kohistan as his brothers and cousins, and those from HazaraKohistan as just colleagues.[40] The desire for dominance is strong among both.

Land/Natural Resources Disputes

Disputes over land and forests, and even water (streams) are among the most common conflict issues in Kohistan. Some of these disputes can continue for years. For example, a dispute over land between Khoshee and Logro, two villages in HazaraKohistan, has been going on for decades. The main dam powerhouse will be located under the disputed land. One village claims it let the other use the land (as *mazarey*), but the other claims it belongs to them. Similarly, a land dispute in Barseen, HazaraKohistan, between two sub-tribes dates back over forty years. A *jirga* tried to resolve the dispute; it awarded the land to one party but the other rejected the decision and took the case to court. Over the course of 20-25 years the case has reached the High Court in Abbotabad. It has still not been resolved.

Water streams, ponds and so on are generally divided among tribes/sub-tribes/families and everyone knows who owns what. But sometimes conflicts arise over these, particularly between different tribes/sub-tribes. In May 2012 a dispute over ownership of a water reservoir in Palas between NarngShahKhail and Badakhail tribesmen, led to one man being killed and his father and two brothers critically wounded. The men from the Badakhail tribe were attacked in their home in the Palas area. In 2011 four people were killed and three injured when tribesmen exchanged heavy fire over the same dispute.

Issues with NGOs

There are several international and local NGOs operating in Kohistan district. INGOs include Church World Services (CWS), Catholic Relief Services (CRS), the German Red Cross (GRC) and Welt HungeHilfe (WHH). Of these GRC is the only one operating in the project area. Local NGOs working in the project area include the Sarhad Rural Support Program (SRSP), Social Awareness and Development Organization (SADO) and the Pakistan Red Crescent Society. SRSP works on water and sanitation (Watsan) and livelihood issues while the others work on these, as well as health and nutrition and education.

There was strong resistance initially to NGOs working in Kohistan. In 2004 an irrigation-water project, implemented through the P&D Dept, was due to start. All activities – by both male and female NGO personnel - were blocked by the local *ulema*. A district level *ulema* conference was then convened to explain the benefits of the project, e.g. improving water supply in the target areas. This led to male NGO staff being allowed to work in Kohistan, but not females. [However, female government employees in the health and education sectors were given permission to work.] In 2007 it was agreed that

[40] Interview with one of the Key Informant, Sept. 2012, Dasu

female NGO staff could work in Kohistan as long as they observed *purdah* (were properly covered) and were accompanied by a *mehram*.[41]

Grievances against Provincial/District Government

Over the past few years there have been a number of incidents in which people in Kohistan have vented their frustration and anger at the district and provincial governments, usually over issues related to development or recruitment. At the end of August 2012, conflict broke out over the recruitment of 150 policemen to Kohistan District. The District Police was reportedly trying to ensure recruitment took place on the basis of merit, but came under political pressure to hire party nominees.[42] The DPO's refusal led to him being transferred out of Kohistan and the recruitment process being suspended. Local people then protested at these actions of the provincial government by blocking the main Karakoram Highway for 36 hours, causing considerable difficulties to passengers and transporters. The blockade ended after DC announced the resumption of recruitment.[43]

Protests in Dasu Tehsil three months earlier featured similar blocking of the Karakoram Highway. Those protests were triggered by the provincial government's direction to the DC and DPO Kohistan to set up bi-weekly camp offices in Pattan Tehsil, to address the issues of people there.[44] Residents of Dasu Tehsil objected to the move as one designed to create divisions among people of different Tehsils, and on the grounds that Dasu was the established district headquarters.

Causal Factors

Social Structure

(a) Tribal system

Kohistan, and specifically the project area, is a tribal society. There are a handful of main tribes, and numerous sub-tribes: '*har das guzzkebaadalaihdakabeelashurooh ho jaataahai'* ('after every 10 yards, a new tribe starts'). Tribal demarcation of territory is very clear, and people are not allowed to cross into each other's territory. Appendix B gives the names of tribes and sub-tribes in the project affected area of Kohistan.

Each tribe is headed by a Malik. The *maliks* occupy the predominant position within Kohistan society. They hold ultimate authority within their own tribes, and are respected by wider society. The bigger the tribe, or the more financially strong the Malik is, the stronger his position and standing. Whatever development work is undertaken in each village/local area, it is done through the Malik and the local *jirga*. The *jirga* is a collection of local leaders or, at higher level, *maliks*. These serve as a forum for collective decision-making. However, there is no tradition of formal democracy within Kohistani society. When one Malik dies, his family members will choose his successor, usually one of his sons. Voting for members of the provincial/national assembly is done on tribal lines.

(b) Religious leaders

Religious leaders also enjoy great respect and wield huge influence on local opinion. Unlike in other districts, religious leaders in Kohistani society are powerful figures, with considerable property and manpower. They thus derive their authority not only from religion, but also from their strong socioeconomic standing. One local described the influence of religious leaders as follows: *'Agar a'lam ne kuchkehdiya, tau*

[41] Close male relative: father, uncle, brother, husband, son. If not the husband, the *mehram* must be someone with whom it is not possible for the woman to marry/have sexual relations. A male cousin would thus not constitute an acceptable *mehram*.
[42] 'Recruitment issue: Hundreds stranded in Kohistan as protestors block KKH', *Express Tribune,* 30 August 2012.
[43] 'Protestors reopen KKH as recruitment in police resumes', *The News,* 31 August 2012.
[44] http://www.hazara.com.pk/news/5589/kohistanlocals-have-resisted-the-provincial- government%E2%80%99s-decision/

woaiseyhaijaiseypatharpelaqeer ho' ['If the A'lam says something, it is like it was carved in stone'].[45]

Each village has its own mosque and *pesh imam* (prayer leader). Local people will follow their *pesh imam*. On wider issues there will be tehsil or district level meetings of religious leaders to decide on a common position. The foremost official religious leader in Kohistan is the Imam of the Jamia Masjid in Komila. Religious leaders do not confine themselves to religious issues.

(c) Government

The District Government works in close collaboration with the *maliks*. The influence of *maliks* is not confined to Kohistan, but extends to provincial level – some are sitting/former members of the provincial/national assembly and enjoy good relations with provincial leaders. All development projects in the district must get blessings of the *maliks* and approved by *jirga* meeting prescribed by DC. This means that the *maliks* can bring about the transfer of District Government Officials who they are not happy with.

Values and Norms

(a) Religion

Kohistan is a deeply conservative society, and religious values prevail. Religious practice is generally confined to prayer and fasting.

. There are no sectarian tensions within the local population because everyone follows the Sunni sect. Moreover, conflicts found elsewhere between different schools of thought within Sunni'sm are also absent.

(b) Role of Women

Kohistan has a highly patriarchal society in which women are completely absent from public life. Females have little opportunities to access education, they do not work outside the home, and they do not participate in politics and have no say in decision-making, even within the household. Kohistan was among the only districts in Pakistan not to field any female councilors for the local government system introduced through the LGO 2001, in which 33% of all local government seats were reserved for women.

Purdah is very strictly observed – women are rarely seen outside the home without Purdah. Even the entry of male first cousins into female areas of the home will often be forbidden. The role of women is as wives and mothers; they also carry out the majority of household and agricultural chores – cooking, washing, cleaning, collecting firewood, looking after livestock and working in the fields. The latter tasks are undertaken within the confines of *purdah*: areas of the forest, for example, are designated for women and no men will go there. Polygamy is the norm in Kohistani society: many married men have more than one wife. The first wife is typically from within the family/sub-tribe, usually a first cousin. The second and third wife is usually from Swat or Gilgit and typically requires a "bride price".

There has been some modernization. Traditional Kohistani dress for women comprised of a *shalwar* (trousers) with a waist of 14 yards, a *kameez* (shirt) made of 12 yards of fabric. Now women wear less cumbersome clothes, and the concept of 'matching clothes' has taken root among the young. But men still make every effort to prevent their women being influenced by the outside world. Televisions and dish antennae have become more common in the district, but these tend to be kept in rooms where only males have access – in most households women are not allowed to watch television.

The restrictions on women and education mean that vital positions in the health and education sectors are not filled, with a corresponding negative effect on women's access to these services. Kohistan has some Lady Health Visitors (LHVs), but the overwhelming majority is non-locals (e.g. from Mansehra) and they can only operate in Basic Health

[45]Interview with local policeman, one of the key informant, 18 Sept. 2012, Dasu

Units: they cannot go to women in their homes. The district needs around 750-800 Lady Health Workers (LHWs) to serve its population. There are currently around 20 LHWs on the payroll, but these cannot do any field work because of the strict *purdah* requirements for women. They are effectively drawing a salary for doing nothing.[46] A similar situation prevails in the education sector. While only 83 out of a total of 1,280 schools are functional in the district, teachers have been appointed for all of these and are getting paid each month.

(c) Honor

Concepts of honor and respect are very strong in Kohistan, consistent with the Pakhtun creed of Pakhtunwali, and revolve around '*zan*, *zar* and *zamin' (*women, gold/wealth and land*)*. Issues of *ana* (ego/respect) take priority over everything else. If someone is insulted/dishonored, '*Qabartaknahinbhooleinge'* ('up to the grave, they will not forget'). Killing of women in the name ofhonour is a 'local custom'.

There is widespread consensus among local people that in so-called honor cases the only outcome is death: both the woman and man involved will be killed. '*Jahanishqwaalikahanisaamneyaaiee, wohaangolichaleygi.'* ('Wherever a tale of love comes forward, there the bullet will be used.')[47] As long as both partners are killed, there is no danger of conflict arising between the two tribes/sub-tribes/families involved.[48]Honor killings are never reported, but where they find out about such cases, the police themselves become complainants and register cases.

Under-Development

Kohistan is under-developed, in particular HazaraKohistan. Prior to 1965 there was no education on the Left Bank at all. Following the 1974 earthquake that devastated the region, the federal government started some schools. .[49] Lack of education, illiteracy, and an overall lack of gainful employment have been cited as factors contributing to conflicts in the district. Many people have nothing to do (particularly since women do the entire household and much of the outdoor/agricultural work), they are sitting around all day and they have weapons – in this situation the tiniest issues can flare up into major disputes. One official warned that, 'Until the literacy rate in Kohistan is raised, there will be conflicts'.[50]

The Karakoram Highway has had a big impact in terms of opening up the region to the outside world. Large numbers of people are employed in NGOs, and increasingly are trying for jobs in government. Now feelings have changed, and there is more appreciation of the importance of education and a greater desire to progress. However, raising education levels is made harder by the poor quality of schools in the district. Many uneducated people have been recruited as primary school teachers; these draw a salary but do nothing. This is particularly true of female teachers.

Conflict Resolution

There are a number of traditional methods of conflict resolution. By far the most common is mediation by the Malik – for disputes within the same sub-tribe – or by the local, village or higher level *jirgas*, for bigger disputes or those between different sub-tribes or tribes. Cases can be registered in the courts, but often eventually end up being resolved through the *jirga* system. However, it is common for *jirga* decisions to be presented to the court and formally documented there.

According to the police,[51] the *jirga* system can resolve the most difficult cases, even murder cases. The Deputy Commissioner reported that he uses the *jirga* system to

[46] Interview with DHO, Dasu, 19 Sept. 2012
[47]Interview with DSP, 18 Sept. 2012, Dasu
[48]Interview with DC, 18 Sept. 2012, Dasu
[49]Interview with a local *malik*
[50]Interview with DHO, 18 Sept. 2012, Komila
[51]Interview with DSP, 18 Sept. 2012, Dasu

resolve law and order situations; the same system had even been used to persuade wanted fugitives to give themselves up to the police. 'The *jirga* system is strong and that makes the government strong.' He cited the number of court cases in Kohistan to demonstrate the effectiveness of the *jirga* system in resolving disputes and maintaining order. In comparison with KohatDistrict, where criminal and civil judges have caseloads running into the hundreds, Kohistan has just one senior civil judge who handles approximately 40-50 cases per month.

Crime levels – other than killings/shootings due to enmity/disputes – are negligible in Kohistan. There is no theft; there are no robberies in the district. This is due to the tribal structure of society, the maintenance of order through the *jirga* system, and the fact that there is only one main road into and out of the region – *'Bhaagnamushkilhai.'* ('It is hard to run away.')

Where a dispute is between two parties and cannot be resolved by a *jirga* of their own tribesmen, an outside neutral ('third party') *jirga* could be called in. If the dispute is between two tribes or sub-tribes on the Left Bank, for example, a neutral *jirga* will be called in from the Right Bank and vice versa. During field work, it was reported that a *jirga* from Pattan was in Seo to resolve a dispute over communal forests: one party wanted trees to be cut because they needed money, while the other party was against cutting forests. The Pattan*jirga* had already been in the situation for a week, and was to remain there until the issue was resolved.

One difference between *jirgas* in Kohistan and those in other parts of KPK and FATA is that the former work only through mutual agreement and consensus. They do not enforce decisions on one party or another. This means that in cases where agreement cannot be reached, disputes drag on.

A second conflict resolution mechanism used in Kohistan, should the *jirga* system fail, is according to Shariah. Disputing parties go to an *a'lam* (religious leader) and submit their statements; the *a'lam* then gives his judgment on the case.

PART III IMPACT OF DASU HYDROPOWER PROJECT

Issues Faced To date

Access to Affected Area and Conduct of Assessments

When the Dasu Hydropower Project first started working in Kohistan a number of issues were faced in relation to access to the region. It would be impossible for project staff to directly approach villages in the affected area, or to begin conduct of the required geological and other surveys. Instead, the project team had to engage in a long process of consultation, beginning in Dasu with district level meetings with the DC and tribal leaders. Once their cooperation was obtained, further meetings were held at *Tehsil* and village level but, again, planned through the DC and local *maliks*. This lengthy consultation process eventually led to the formation of small local committees across the project area, comprising focal persons whom the project could contact. Some conflicts arose over membership of the committees – with some people complaining they should have been included - but these were resolved by explaining that it was the DC/*maliks* who had decided the nominees. It was only after this long process that authorization was given for conduct of surveys and other field work.

Dasu Hydropower Project has conducted a resettlement survey to identify where people affected by the dam would like to move. The District Government (Revenue Department) is now starting its own survey. This is causing tension: local people are insisting that they will only let the survey happen if they are paid immediately for their land/assets. They are not prepared to tolerate an interval between survey and compensation – their worry is that the survey will be conducted now but payment will not be made for several years, by which time the assessed values will be out-of-date. One Malik on the Left Bank warned

that, should the district government go ahead with the survey without resolving this issue, 'there will be problems'.

Recruitment and Procurement

A consistent demand being made of the Dasu Hydropower Project is that it recruits staff locally, and carry out all procurement locally. In the case of non-technical positions, this is feasible and the project has been hiring drivers, cooks, etc. from the local population. But in the case of technical and specialist positions, there are no suitably qualified local people and staff have to be brought in from outside. There is some resentment about this among local people. Lack of education means that they do not appreciate the specific skills required for certain jobs, e.g. they think all surveys are the same, and demand that locals who have been involved in basic surveys (e.g. of population) be engaged for more technical surveys. Where available locally the project has been using these, e.g. cars and jeeps. But where larger vehicles/other equipment or materials are needed that are not available locally, these are brought in from outside, leading to resentment among local people.

As seen above, people on Left and Right Banks of the River Indus view each other as 'the other'. While there is no open conflict between them, and there is some social interaction and even a few inter-marriages, both sides desire dominance; neither wishes to see the other become dominant. This sentiment is particularly strong on the Left Bank, which generally has lower levels of education and is less developed than the Right Bank. The onset of the Dasu Hydropower Project has led to the 'competition' between Left and Right Banks being manifested in demands for equal treatment. In recruitment of staff such as drivers, for example, there is insistence that an exactly equal number be hired from Left and Right Banks. The potential for conflict arising from 'favoring' one side over the other can be gauged from the fact that the Additional Assistant Commissioner (AAC) issued an official letter stipulating equal recruitment. The same issue is faced in procurement, e.g. if two cars are hired from the Right Bank, two must be hired from the Left Bank.

In an effort to generate goodwill, as well as to build local capacities, WAPDA advertised a vocational training program for affectees of the Dasu project 'to make them better equipped for participating in the jobs generated during construction of Dasu Hydropower Project and also enhance their skills to work on other projects within Pakistan or abroad' (see Appendix C). Applications for first batch were sought for six-month training courses for electricians, plumbers, steel fixers, mechanics, and so on, to be held at the NLC Applied Technologies Institute at Dina, Jhelum. The selection was made on the basis on advertised criteria, but initially locals did not agreed and pointed out favoritism. A Jirga was held where each selected were discussed. After detailed deliberation they honored the selection is transparent and then after three batches were selected without any problem.

Potential Conflict Issues Arising from Project

Lack of Communication/Local Participation

The relationship between WAPDA and local communities will be critical. One local official noted that: 'If someone tries to deceive people and then tell them the truth, or if they find out for themselves, or if they are given incorrect information, they will get very angry.'[52] On the other hand he claimed that if they were told the truth clearly at the outset, they would be very supportive.

Before starting of detailed design WAPDA held so many meetings with locals to get their confidence and consensus on the project. Initially locals were reluctant, however, with persistent follow up local accepted the project and let the staff working in project area. WAPDA always works in close coordination with local population specifically and Maliks in general and had no problem till to date. Any issue arises were solved with the help of

[52] Interview with DSP, 18 Sept. 2012, Dasu

local leaders by conducting Jirga or discussion with complainant. WAPDA never asked district administration to come forward for resolution of dispute. On demand of locals, WAPDA officialsare deputed in conducting land survey with the district revenue staff being more neutral and transparent.

WAPDA recently held a series of provincial consultations to discuss mitigation strategies for the potential social, environmental and cumulative induced impact of Dasu Dam. The first consultation was held in Peshawar on 11 September 2012, the second in Lahore on 17 September, the third in Karachi on 24 September and the final one (with representatives from Balcohistan) in Islamabad on 2 October.

Land Acquisition

(a) Attribution of Ownership

There is no land title system in Kohistan, which means there are no written records of who owns which land. This could potentially lead to disputes between opposing claimants when District Collector undertakes land acquisition for the hydropower project. However, the general consensus is that such disputes will be limited. Land demarcation and ownership is, for the most part, well-established in Kohistan – 'everyone knows who owns what'. It will be difficult for people to make opportunistic claims because the wider community will know who the real owner is. Moreover, even in cases where ownership is genuinely disputed, the local conflict resolution mechanism through *jirgas* can usually settle the issues. Where local *jirgas* cannot settle a dispute, the mechanism of using a neutral, outside *jirga* can be employed.

The District Officer Education reported that people knew the dam was coming, and had already started dividing and designating land and common property. The typical practice was to divide common land into as many shares as there were shareholders, and then toss a coin to decide who would get first pick of a share, who would choose second and so on.[53]A tribal chief on the Left Bank predicted that there would be some increase in land disputes as a result of the dam, mostly in relation to common land, but he was also confident that these could be settled locally through traditional conflict resolution mechanisms. One of his counterparts on the Right Bank, the Malik of Seo Village, predicted that land disputes would be very limited – to perhaps less than 5 percent of the land to be acquired.

A further mechanism that could be used in difficult land dispute cases – which cannot be solved through *jirgas* or other local means – is to place the money for the disputed land with a neutral third party/the government, to be given to one/other of the disputing parties whenever the issue of ownership is resolved. This approach would ensure that the process of land acquisition is not delayed by protracted ownership disputes, while at the same time not forcing a hasty decision which could lead to further conflict.

(b) Compensation and Impact of Bhasha Dam Land Acquisition

There is relatively very little flat land in Kohistan suitable for agriculture or for residential purposes. This means that land rates in the district are already high. Demands for compensation for land acquisition for Dasu Dam are also being influenced by the rates agreed for land in Gilgit-Baltistan, acquired for construction of the Diamer-Bhasha Dam. The high rates agreed there have triggered demands for high rates in Dasu.

Local people in the project affected area have made clear they want to be paid in advance for their land/houses/other assets. An argument put forward in this regard is that it could be cheaper for WAPDA to pay people at an earlier stage: later prices will rise, and the negotiating position of local people will become more rigid (they will demand more money) as construction becomes imminent.[54] The demand for timely payment of compensation is also influenced by the Basha experience. WAPDA acquired 1,300 kanals in Kohistan for construction of the O&M Staff colony for the Basha-Diamer Dam.

[53]Interview with DO Primary Education, 19 Sept. 2012, Komila
[54]Interview with a local *malik*

Compensation of Rs. 2 lakhs/kanal was agreed and the money was transferred to the District Government for payment to affectees. Delays in release of this money led to violent protests and blockage of the Karakoram Highway for five days. The dispute was eventually resolved through a grand *jirga* convened in Abbotabad and including MNAs, religious leaders, *maliks*, senior WAPDA officials and provincial/district government representatives. Affectees were eventually paid in full, but the 'lesson' for Dasuaffectees is that they have to be wary of pledges made by government/WAPDA.

The issue of compensation carries perhaps the greatest potential for conflict of all the issues associated with the dam project. Expectations have been raised by the Basha Dam precedent; at the same time there are genuine worries and fears about the future, and a desire by local people to secure the best possible compensation package while they still have a strong negotiating hand (i.e. still have physical possession). If the compensation issue is not handled properly and/or if local people feel they have been 'short-changed' it will fuel local hostility to the dam project, and lead to problems.

Resettlement Arrangements

Some people (10%) in the affected area will be keen to take their compensation money and move to Mansehra, Abbotabad or even further afield. These people appear to have mentally accepted that their traditional lifestyle will end (or be eroded to some extent), and they are keen to move to areas that offer better opportunities for education and other benefits.

For many (90%) other local people, however, the prospect of moving away from their traditional environment to urban, or even distant rural locations, is totally unacceptable. These people will want to resettle as close as possible to their former homes and lands. The problem in Kohistan, however, is that land availability is already very limited. Where land is available at higher altitudes (including what would traditionally be only summer abodes) people have indicated they would like to move there. Such resettlement could face issues of lack of water, lack of power (currently many lower altitude communities are served by small micro-hydel schemes), lack of access to the Karkoram Highway, or other services/facilities that were available at lower altitudes. In cases where people have to move to a new area, there are worries about living with different people, that they might not enjoy good relations, and that they will lose their forest/water rights.

A related issue is that local people say they want their new homes, facilities and so on, in place at least one year before they actually move. Levels of distrust of government are high, and people would not be willing to shift until resettlement arrangements are complete. All these diverse aspects of resettlement have the potential to generate hostility and conflict.

Impact on Traditional Lifestyle

Kohistan is a highly conservative area, and traditional values and practices are held in high regard. As such outside influences are viewed with reserve, suspicion, even hostility. A local Malik claimed that there was a lot of peace and contentment before 1965; the arrival of roads and electricity caused lots of problems. He further claimed that elements (e.g. different foods, contraceptive) introduced through opening up to the outside world had led to many problems in tribal culture.

Many local people acknowledge that the construction of Dasu Dam will bring them significant benefits and will greatly enhance development in the region, but there is a fear that their traditional lifestyle will be affected. As one Malik put it: '*hamaarerasm-o-rawaajkhatam ho jainge'* ('our traditions and culture will be finished').[55] For those unwilling to move away from their mountain abodes, the desire to maintain strict *purdah* for their women is a major consideration. If they shifted to a distant rural location or the city, they would have to keep their women indoors all the time, which means they would be unable to perform their usual chores (managing livestock, working in the fields).

[55]Interview with a local *malik*, 19 Sept 2012, Kaiga Village

There has been local criticism, for example, of project staff for wearing western clothes and for smoking during the month of Ramadan. Such issues will be more problematic as more and more workers come into Kohistan from other parts of the country.

Other Issues

(a) Women's Empowerment

As seen, Kohistani society is extremely conservative and patriarchal. There is strong resistance to any efforts to promote the empowerment of women. When the project team broached the topic of conducting a gender assessment in the affected area they were met with complete refusal. Even when it was explained that the assessment would be conducted by women, the idea was totally rejected – with the comment that 'outside women' are 'dirty'. A very limited gender assessment was eventually conducted through the auspices of the DHO and LHVs; it entailed asking women who were visiting the LHVs to complete questionnaires about their situation. It was completely impossible for any approach to be made to women inside their homes. Given this context, should the project be seen as 'pushing' for women's empowerment, this will definitely generate a negative reaction – even among those otherwise in favor of the dam.

(b) Project Access Road

All phases of project implementation will involve very heavy traffic flows as huge quantities of materials are brought in for construction. This will be a sustained increase, continuing for months and years. The impact on local communities – noise and other pollution, traffic congestion and increased travel times, increased risk of accidents, and so on – will be significant. The specific access road to the construction site passes through a village (residential area) with shops and houses. Residents there will be particularly badly affected. Frustration and anger could build up over time, and/or any incident, such as a truck damaging a house/shop, or someone being run over, could trigger local protests. This potential conflict issue merits attention because a very effective tool that local people could use to stop construction would be to block the road/ highway.

(c) Influx of Migrant Workers

It is estimated that 3,000 to 4,000 workers will have to be brought into the project area for construction of Dasu Dam. Local labour availability is simply not enough to meet project construction needs. This could potentially lead to conflict for a number of reasons. (i)Local people could feel aggrieved that 'outsiders' are taking jobs that should have gone to them. (ii)As seen, Kohistani's are very conservative and strongly resistant to modern culture. If outside workers are seen as bringing in such a culture, this will cause problems and inter-cultural conflicts. There should be measures to deal with such situations by the project and the local administration.Nonetheless, there will be interaction between these and the local population, e.g. while travelling in and out of the region, when migrant workers go to the bazaar. (iii)With such a large number of people coming into the region, problems could arise in relation to food security, public health and so on.

(d) Grievance Redressal

Grievances are inevitable in an infrastructure project of the scale of Dasu. Grievances can arise at any stage of implementation, from the feasibility study and design preparation, to land acquisition and establishment of requisite infrastructure (access roads, colonies, etc) to the various stages of dam construction. If a proper and effective grievance redressal mechanism is not devised, people will seek alternative modes to vent their anger.

PART IV SUMMARY ANALYSIS

Potential for Conflict as a result of Dasu Hydropower Project

Kohistan, and the project affected area specifically, can be characterized as having a very strong tribal system, and a deeply conservative and patriarchal society. Honor, respect, culture and tradition are valued above all else. It is also an area with very low levels of education and development, and as such interpretation of religious teachings tends to be both fundamentalist and 'malleable' to the demands of tradition. Put more simply, even Islam comes second to traditional values and norms. Keeping women in *purdah* and preventing any kind of dishonor in relation to them is extremely important. This is also a society rife with weapons and where – until very recently – disputes would quickly lead to violence and killings. While this would appear to be a relatively lawless society in which the government has little writ, there is in fact a very strong system of control and order underpinning it, based on the *maliks* (tribal leaders) and *jirga* system. Religious leaders also enjoy great respect and authority.

Communities on the Left Bank and Right Bank view each other as different ('the other'), but there is no open conflict between them. The overall level of violence has dropped significantly in recent years, due to increased awareness of the harm this inflicts on everyone, and a desire to progress. Employment opportunities in government, the police and NGOs have contributed to this awareness and desire for change. However, as manifested in recent *fatwas* by religious leaders against NGOs and women, there is still strong resistance to modern culture and values.

Within this existing context, the introduction of the Dasu Hydropower Project offers opportunities for development and progress – furthering the nascent movement towards these – but it also offers considerable potential for conflict. The latter can be divided into two broad areas: conflict stemming from perceived challenges to traditional values and norms; and conflict stemming from 'material' interests and demands. Both are significant and both could make project implementation difficult.

With regard to values and norms, the desire for economic development among affectees is delicately poised against the desire to preserve honour/deep-rooted hostility to modern culture. It cannot at all be taken for granted that material interests will automatically override concerns over values. On the contrary, there is a real danger that local people could perceive the dam project and the 'outsiders' working on this, as threatening their traditional values and norms and they could become openly hostile to it.

With regard to material interests, the main potential conflict issues here are compensation for acquisition of land/assets, the other demands made by local communities, and the treatment of one River Bank in relation to the other. There is no system of land records in Kohistan. Despite this, disputes over land ownership in relation to land acquisition for the hydropower project are unlikely to be significant. The strong tribal system will deter opportunistic claims; where there are disputes local conflict resolution mechanisms should be able to settle the majority. Even where disputes are protracted and resistant to resolution, there are local mechanisms (e.g. depositing money with a neutral third party) that can ensure land acquisition for the dam is not held up.

Compensation, however, is a definite potential conflict issue. Expectations on the part of affectees are high – both because land availability is so limited in Kohistan and because of the precedent set by Basha. People in Kohistan will seek to achieve something higher than the Basha benchmark. Timely payment – or the failure to do so – could also lead to conflict, and again Basha is an example of this.

The differences between residents of the Left and Right Banks are not currently manifested in conflict. But this could change as a result of the dam project. If either side feels the other is getting greater benefit from the development this will lead to protests - as already seen in recruitment and procurement by the project. However, while conflict

potential exists, it is also relatively easy to defuse: communities on both banks simply have to be treated scrupulously equally.

In sum, the introduction of a major hydropower project in the Dasu area carries considerable potential for conflict. This stems largely from the conservative society, as well as from how much and by what mechanism (including in what time period) people get compensated for the land and other assets they will have to give up. Whether or not conflict actually materializes will depend in large measure on how the project is implemented. This is discussed in Part C: Conflict-Sensitive Programming.

Links between Development, Poverty and Conflict in Kohistan

The relationship between poverty, conflict and development was examined in Part A of this report. It was noted that, in general, poverty increases the likelihood of conflict. The impact of conflict is such that it undermines economic growth, leading to increased poverty. Development, if carried out properly, can help reduce poverty and break the vicious cycle of conflict. Promotion of development has to be an inherent part of conflict reduction/peace building efforts if these are to have a sustainable impact.

The above correlation certainly holds true for Pakistan as a whole. As seen in Part A, Pakistan faces numerous economic and development challenges: it has the world's sixth largest population but human development indicators are lagging. Growing energy and water crises threaten future development. The government and public appear resolved on the need to eradicate extremism and militancy, but the response to date has largely been a security one. Many of the underlying causes of militancy stem from denial of political and economic rights and opportunities. Part A concluded that development and growth are vital to prevent Pakistan going down a path of escalating instability and insecurity, and support it move down a path of peace and prosperity.

Analysis of the same issues in the context of Kohistan District also reveals a clear nexus between them. Poverty levels in Kohistan are high; the 1998 Census placed the district bottom in the country in terms of socioeconomic development. Literacy rates are extremely low – virtually zero among females; access to basic services like health and education is very limited. Thus there is a pressing need *from a human rights perspective* (and irrespective of any links to conflict) to address the widespread poverty and under-development in Kohistan.

There is a general consensus among local people that prevalence of carrying arms and the number of killings/shootings has reduced significantly in recent years. There is an equal consensus on what has brought about this deterioration in violence: the construction of the Karakoram Highway, the opening up of the district to the outside world, the entry of NGOs and development organizations and subsequent generation of employment opportunities, nascent opportunities for education within and outside the district, and entry into government employment. These factors – all signs of development – have brought about a change in mindset and a desire to progress and prosper. To date the scale on which this has happened is small, but it clearly shows the potential for development to reduce poverty *and* reduce conflict in Kohistan.

Two further points are important in relation to conflict in Kohistan. The first is that currently violence is generally low-key and stems from disputes over land, honour, etc. usually between people from different sub-tribes or tribes. However, levels of arms ownership are high – the majority of men have arms in their homes. The second is that there is no extremist violence in Kohistan. The overwhelming majority of the population follows the thought of Sunni Islam. There is no sectarian conflict in the district.

These points are significant because they highlight the potential for conflict and violence in Kohistan to escalate. As with the rest of Pakistan, Kohistan stands poised at a fork, with one path leading to development, access to services, job creation and further reductions in violence. The second path leads to more poverty and deprivation, increased violence and - critically – the potential for extremist violence targeting, for example, local leaders/groups seen as too moderate, government officials, and/or

outside workers. Gilgit-Baltistan, which has become associated in recent years with r sectarian violence, is just to the north of Kohistan. Spread of extremism and violence to Kohistan cannot be ruled out. The writ of the state in the district is weak at best. Responsibility for maintaining law and order rests with the *maliks* and *jirgas* and the traditional tribal system. Should conflict within the district escalate, it will be extremely difficult – if not impossible – for the government and its forces to bring this under control.

To sum up:

- Kohistan currently has high levels of poverty and deprivation;
- Owning arms is the norm in Kohistani society;
- Exact numbers are difficult to obtain, but at least several incidents of killing/shooting or other violent attacks take place in Kohistan District each year;
- The prevalence of carrying arms in public and of violent incidents has decreased significantly in recent years;
- The drop in arms-carrying and violence is widely attributed to increased opportunities for employment, the Karakoram Highway and the opening up of the district to the outside world;
- Further development and job creation could lead to further reduction in violence, and peace and prosperity;
- However, under-development, coupled with the prevalence of arms could lead Kohistan down a different path, towards increased conflict and extremism.

In conclusion, the limited development that has taken place in Kohistan District has already led to reduced poverty and conflict. This trend could continue if there is further development, but equally Kohistan has the potential to become more violent.

The lesson from the above analysis is the same as that to emerge from the Pakistan analysis in Part A: Kohistan needs to be supported to make a permanent move away from violence to peace. The key to this is development. The Dasu Hydropower Project could not only make a contribution to this, but actually bring it about. This one massive investment in the region will generate jobs, income, business, services and development on such a scale that a permanent and sustained improvement in people's lives will result. The Dasu Hydropower Project can lift the project area and wider district from being among the most backward in Pakistan to one of the most prosperous and developed. The positive mindset change that will accompany this improvement in socioeconomic conditions can be taken for granted. This explains why the Dasu Hydropower Project is so vital for the future of Kohistan District. Part C of the report examines how the project should be implemented so as to maximize positive effects and minimize negative effects.

Appendix C: List of Surveyed Villages/Hamlets within the Project Area

Sr. No.	Hamlets	Villages	Union Council
Right Bank			
1.	Komila	Komila	Komila
2.	Kass		
3.	Rango		
4.	Seo	Seo	Seo
5.	Siglo	Siglo	Siglo
6.	Melar	Melar	Koz Purwa
7.	Kuz Kai		
8.	Kai Dogah	Dogah	
9.	Seer Gayal	Gayal	
10.	Kot Gal	Kot Gal	Thuti
11.	Not Bail	Thuti	
12.	Sluch		
13.	Thuti		
14.	Waris Abad		
15.	Doonder		
16.	Gummo		
17.	Cher Shial		
Total	17	8	5
Left Bank			
1.	Chuchang	Dasu	Dasu
2.	Khoshi		
3.	Logro	Logro	
4.	Uchar Nallah	Uchar Nallah	
5.	Barseen	Barseen	
6.	Largani		
7.	Gul-e-Bagh/ Maidan	Kaigah	
8.	Kaigah		
9.	Pani Bah		
10.	Gadeer		
11.	Chalash		
12.	Looter	Looter	
13.	Shori Nallah	Shori Nallah	Sazin
14.	Summer Nallah	Summer Nallah	
15.	Lachi Nallah	Sazin	
16.	Sazin Camp		
17.	Shatial	Shatial	
Total	17	10	2
G. Total	**34**	**18**	**7**

Appendix D: Villages and HH Affected by Different Project Components

Villages and HH Affected by Different Project Components				
Sr. No.	**Village/Hamlet**	**Project Component**	**Affected HHs**	**Affected Land (ha)**
Right Bank				
1.	Komila	Access Road and Contractor Camp	7	12.95
2.	Kass	Access Road and Contractor Camp	1	9.69
3.	Rango/ Zal	Access Road, contractor Camp and Disposal Area	1	4.14
4.	Seo	Access Road	6	1.52
5.	Siglo	Access Road and Plant Yard and main Structure	109	126.04
6.	Melar	Reservoir and Access Road	42	211.60
7.	Kuz Kai	Reservoir and Access Road	14	165.25
8.	Kai Dogah	Reservoir and Access Road	8	71.23
9.	Seer Gayal	Reservoir and Access Road	56	253.28
10.	Kot Gal	Reservoir and Access Road	32	189.06
11.	Waris Abad	Reservoir and Access Road	13	162.43
12.	Not Bail	Reservoir and Access Road	6	70.48
13.	Thuti	Reservoir and Access Road	40	89.39
14.	Sluch	Reservoir and Access Road	24	101.68
15.	Doonder	Reservoir	7	99.69
16.	Gummo	Reservoir	19	112.86
17.	Cher Shial	Reservoir	8	96.86
Total of Right Bank			393	1778.16
Left Bank				
1.	Chuchang	Staff Colony and KKH	104	144.25
2.	Khoshi	KKH,Main structure	4	65.47
3.	Logro	Main Structures, KKH, Reservoir		76.52
4.	Uchar Nullah	KKH, Reservoir, Yard, Labor Camp	42	109.32
5.	Barseen	Reservoir, KKH, Yard	36	89.25
6.	Largani	Reservoir, KKH	9	96.90
7.	Kaigah	Reservoir, KKH	49	196.27
8.	Gul-e-Bagh/ Maidan	Reservoir, KKH	30	136.50
9.	Pani Bah	Reservoir, KKH	18	155.30
10.	Gadeer	Reservoir, KKH	5	136.42
11.	Chalash	Reservoir, KKH	11	142.23
12.	Looter	Reservoir, KKH	11	106.08
13.	Shori Nullah	Reservoir, KKH	10	108.13
14.	Summer Nullah	Reservoir, KKH	8	99.67
15.	Lachi Nullah	Reservoir, KKH	7	106.37
16.	Sazin Camp.	Reservoir	6	27.50
17.	Shatial	Reservoir	24	1.68
Total of Left Bank			374	1797.86
Grand Total			**767**	**3576.02**

Appendix E: Affected HH and Population by Residence

Affected Population by Different Villages					
Sr. No.	**Village/Hamlet Name**	**HHs**	**Affected Population**		
			Male	**Female**	**Total**
Right Bank					
1.	Komila	7	41	28	69
2.	Kass/ Zal	1	5	4	9
3.	Rango	1	19	5	24
4.	Seo	6	61	40	101
5.	Siglo	109	579	639	1218
6.	Melar	42	172	164	336
7.	Kuz Kai	14	84	59	143
8.	Kai Dogah	8	24	36	60
9.	Seer Gayal	56	239	265	504
10.	Kot Gal	32	128	91	219
11.	Warisabad	13	46	49	95
12.	Not Bail	6	22	18	40
13.	Thuti	40	125	104	229
14.	Sluch	24	68	69	137
15.	Doonder	7	22	23	45
16.	Gummo	19	55	51	106
17.	Cher Shial	8	38	47	85
Total of Right Bank		393	1728	1692	3420
Left Bank					
1.	Chuchang	104	472	408	880
2.	Khoshi	4	30	33	63
3.	Logro				
4.	Uchar Nullah	42	177	190	367
5.	Barseen	36	116	126	242
6.	Largani	9	37	36	73
7.	Kaigah	49	274	314	588
8.	Gul e Bagh/ Maidan	30	111	116	227
9.	Pani Bah	18	80	61	141
10.	Gadeer	5	25	28	53
11.	Chalash	11	41	37	78
12.	Looter	11	49	37	86
13.	Shori Nullah	10	61	55	116
14.	Summer Nullah	8	40	29	69
15.	Lachi Nullah	7	68	50	118
16.	Sazin Camp.	6	50	36	86
17.	Shatial	24	174	172	346
Total of Left Bank		374	1805	1728	3533
Grand Total		**767**	**3533**	**3420**	**6953**

Appendix F: Affected Lands with different Categories

Affected Lands with different Categories									
Sr. No.	Village/Hamlet Name	Affected HHs	Affected Lands Hectares					Total Agri. Land	Impact on Agri. Land %
			Agri. Land	Graze Land	Barren Land	Built up Area	Total Land		
Right Bank									
1.	Komila	7	0.14	0.56	12.00	0.25	12.95	500.00	0.03
2.	Kass/ Zal	1	0.00	0.28	9.38	0.04	9.69	60.00	0.00
3.	Rango	1	0.14	0.84	3.13	0.04	4.14	90.00	0.16
4.	Seo	6	1.00	0.00	0.31	0.21	1.52	450.00	0.22
5.	Siglo	109	20.02	8.40	93.78	3.84	126.04	560.00	3.58
6.	Melar	42	18.59	19.60	171.93	1.48	211.60	400.00	4.65
7.	Kuz Kai	14	2.86	5.60	156.30	0.49	165.25	70.00	4.09
8.	Kai Dogah	8	1.43	7.00	62.52	0.28	71.23	50.00	2.86
9.	Seer Gayal	56	35.75	28.00	187.56	1.97	253.28	850.00	4.21
10..	Kot Gal	32	2.00	14.00	171.93	1.13	189.06	70.00	2.86
11.	Waris Abad	13	0.07	5.60	156.30	0.46	162.43	25.00	0.29
12.	Not Bail	6	2.15	5.60	62.52	0.21	70.48	45.00	4.77
13.	Thuti	40	1.43	8.40	78.15	1.41	89.39	450.00	0.32
14.	Sluch	24	2.86	4.20	93.78	0.84	101.68	70.00	4.09
15.	Doonder	7	2.86	2.80	93.78	0.25	99.69	120.00	2.38
16.	Gummo	19	10.01	8.40	93.78	0.67	112.86	350.00	2.86
17.	Cher Shial	8	0.00	2.80	93.78	0.28	96.86	150.00	0.00
Total of Right Bank		393	101.32	122.08	1540.93	13.83	1778.16	4310.00	2.35
Left Bank									
1.	Chuchang	104	7.15	8.40	125.04	3.66	144.25	350.00	2.04
2.	Khoshi	4	0.01	2.80	62.52	0.14	65.47	120.00	0.01
3.	Logro		0.00	14.00	62.52	0.00	76.52	90.00	0.00
4.	Uchar Nullah	42	2.86	11.20	93.78	1.48	109.32	250.00	1.14
5.	Barseen	36	1.43	8.40	78.15	1.27	89.25	150.00	0.95
6.	Largani	9	0.01	2.80	93.78	0.32	96.90	80.00	0.01
7.	Kaigah	49	21.45	16.80	156.30	1.72	196.27	250.00	8.58
8.	Gul e Bagh	30	2.00	8.40	125.04	1.06	136.50	320.00	0.63
9.	Pani Bah	18	0.00	14.00	140.67	0.63	155.30	250.00	0.00
10.	Gadeer	5	0.00	11.20	125.04	0.18	136.42	80.00	0.00
11.	Chalash	11	0.00	16.80	125.04	0.39	142.23	50.00	0.00
12.	Looter	11	0.72	11.20	93.78	0.39	106.08	90.00	0.79
13.	Shori Nullah	10	0.00	14.00	93.78	0.35	108.13	55.00	0.00
14.	Summer Nullah	8	0.00	5.60	93.78	0.28	99.67	60.00	0.01

APPENDIX-F [2/2]

15.	Lachi Nullah	7	1.14	11.20	93.78	0.25	106.37	120.00	0.95
16.	Sazin Camp.	6	4.29	1.12	21.88	0.21	27.50	250.00	1.72
17.	Shatial	24	0.64	0.00	0.19	0.84	1.68	170.00	0.38
Total of Left Bank		374	41.70	157.92	1585.07	13.17	1797.86	2735.00	1.52
Grand Total		**767**	**143.02**	**280.00**	**3126.00**	**27.00**	**3576.02**	**7045.00**	**2.03**

Appendix G: List of HH Affected by Commercial Structures

Sr. No.	Village/ Hamlet	Owner Name	Father's Name	Owner'sCNIC No.	Structure Type	Affected Area (m^2)	Income Loss (Rs./Month)
1.	Largani	Rahat Mian	Mian	1340115110951	Karyana Shop	126	7,500
2.	Kaigah	Malook	Habeel	Not available	Karyana Shop	297	8,000
3.	Pani Bah	Haji Mukhtar	Khan	Not available	Karyana Shop	505	10,000
4.	Uchar Nullah	Abdul-Jalil	Rusam	1340115051281	Karyana Shop	58	35,000
5.	Kaigah	ShahAkbar	Barkat Shah	1340164659791	Karyana Shop	46	15,000
6.	Thuti	Haji Samandar	Malik Aftab	1340165400413	Karyana Shop	43	30,000
7.	Thuti	Shah Alam	Hukam Khan	1340166785079	Karyana Shop	182	20,000
8.	Thuti	Muhammad Miskeen	Katbar	1340115029141	Karyana Shop	5128	35,000
9.	Thuti	Muhammad Nawaz	Muhammad Ashraf	1340139498571	Karyana Shop	16	40,000
10.	Summer Nullah	Darman Khan	Abdul-Khaliq	1340151334573	Water Mill	7	10,000
11.	Summer Nullah	Muhammad Aziz	Khawidad	1340353576609	Karyana Shop	7	15,000
12.	Summer Nullah	Shahzada	Dawood	1340184564607	Karyana Shop	16	16,000
13.	Summer Nullah	Muhammad Jamil	Humayun	Not available	General Store	18	42,000
14.	Summer Nullah	Muhammad Jamil	Humayun Khan	1340163233689	Restaurant	372	60,000
15.	Summer Nullah	Tajamul	Shah Alam	1340160663079	Karyana Shop	21	10,000
16.	Summer Nullah	Abdullah Khan	Aslam Khan	1340152770623	Restaurant	127	60,000
17.	Summer Nullah	Naj Wali	Meeras	1340147267561	General Store	13	30,000
18.	Summer Nullah	Manabir	Mir Abas	1340165160329	General Store	5	15,000
19.	Summer Nullah	Shahzada	Dawood	1340184564607	General Store	150	35,000
20.	Summer Nullah	Saeed Ullah	Shukar Wali	1340116804851	Karyana Shop	42	10,000
21.	Summer Nullah	Munazar	Darman	1340189265991	Karyana Shop	4	1,500
22.	Summer Nullah	Muhammad Ali	Molvi Noor Ali	1340147756093	Karyana Shop	16	8,000
23.	Chalash	Haji Saeed Jamil	Saeed Jalal	Not available	Shoe Store	1011	7,000
24.	Chalash	Oneel Khan	Jahangir Khan	1340114330501	Karyana Shop	19	13,000
25.	Chalash	Sarjan	Marjan Khan	1340115084863	General Store	25	17,000
26.	Summer Nullah	Mir Shah	Peer Zaman	Not available	General Store	7	3,000
27.	Summer Nullah	Mir Shah	Peer Zaman	Not available	Karyana Shop	11	30,000
28.	Summer Nullah	Fareed Khan	Muhammad Ayyub	1340148518073	Shoe Store	14	35,000
29.	Summer Nullah	Fareed Khan	Muhammad Ayyub	Not available	General Store	14	50,000
30.	Summer Nullah	Fareed Khan	Muhammad Ayyub	Not available	General Store	17	45,000

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31.	Summer Nullah	Muzamil Shah	Muhammad Ayyub	1340163318247	Water Mill	9	8,000
32.	Summer Nullah	Younas Khan	Sherwali Khan	Not available	Shoe Store	44	15,000
33.	Summer Nullah	Hassan Ali	Noor Nabi	1340147756093	Hakeem/ Quack Clinic	9	30,000
34.	Summer Nullah	Liaqat Ali	Noor Nabi	1340147756093	Hotel	397	75,000
35.	Summer Nullah	Mumtaz Ali	Noor Nabi	1340115092869	Restaurant	251	45,000
36.	Summer Nullah	Sir Jamil	Haji dawood	1340114502313	Restaurant	16	50,000
37.	Summer Nullah	Fazal -ur-Rahmna	Sir Jamil	1340104604699	Restaurant	34	30,000
38.	Seer Gayal	Muhammad Din	Abdul Aziz	1340115039907	General Store	33	62,000
39.	Thuti	Shakar Zaib	Aftab	134015045445	Shoe Store	28	8,000
40.	Barseen	Bahram Malik	Barkati	1340115033937	General Store	9	15,000
41.	Barseen	Bahram Malik	Barkati	1340115033937	Hakeem/ Quack Clinic	13	50,000
42.	Barseen	Roum Mian	Barkati	1340115033935	General Store	8	20,000
43.	Barseen	Muawar Shah	Abduk Gaffar	1340115094231	Restaurant	52	32,000
44.	Barseen	Roum Mian	Barkati	1340115033935	Restaurant	733	25,000
45.	Barseen	Iqbal Khan	Toheen Khan	Not available	Cloth Shop	21	12,000
46.	Barseen	Govt.property	N/A	Not available	PTDC Hotel	5053	150,000
47.	Barseen	Soan Mian	Barkti	Not available	Water Mill	22	12,000
48.	Barseen	Roam Mian	Barkti	Not available	Karyana Shop	25	22,000
49.	Seo	Haji Muanwar Shah	Gondal Shah	Not available	Karyana Shop	126	24,500
50.	Largani	Rahat Mian	Ali Haidar	1340115110951	General Store	25	11,000
51.	Gadeer	Fazal Shah	Makidad	1340115106299	Cloth Shop	245	50,000
52.	Melar	Musharf Khan	Kesho	1340122351335	Karyana Shop	12	15,000
53.	Shori Nullah	sabeet	Bradar	1340199505395	Restaurant	31	15,000
54.	Shori Nullah	Yasin	Muhammad Jee	1340114154095	General Store	17	20,000
55.	Lachi Nullah	Malik Zabor Khan	Malik Jamil Khan	1340196130685	Restaurant	1126	40,000
56.	Lachi Nullah	Hikmat Khan	Jyuma Khan	1340120836901	Karyana Shop	22	20,000
57.	Sazin Camp	Khan Afzal	Muhammad Haleem	1340153103725	General Store	18	15,000
58.	Looter	Umar khan	Abdul Qadeem	1340169755763	Restaurant	25	45,000
59.	Looter	Abdul Baqi	Lal zar	1340157006955	Cloth Shop	25	15,000
60.	Looter	Abdul Saboor	Mian Noor	1340117544901	Karyana Shop	49	20,000
61.	Looter	Syed Akbar	Wali Muhammad	Not available	Cloth Shop	22	5,000
62.	Looter	Jama Mir	Sarbaz	1340192112273	Karyana Shop	21	15,000
63.	Lachi Nullah	Muhammad Barash	Malik Jamil Khan	1340131081931	Karyana Shop	21	15,000

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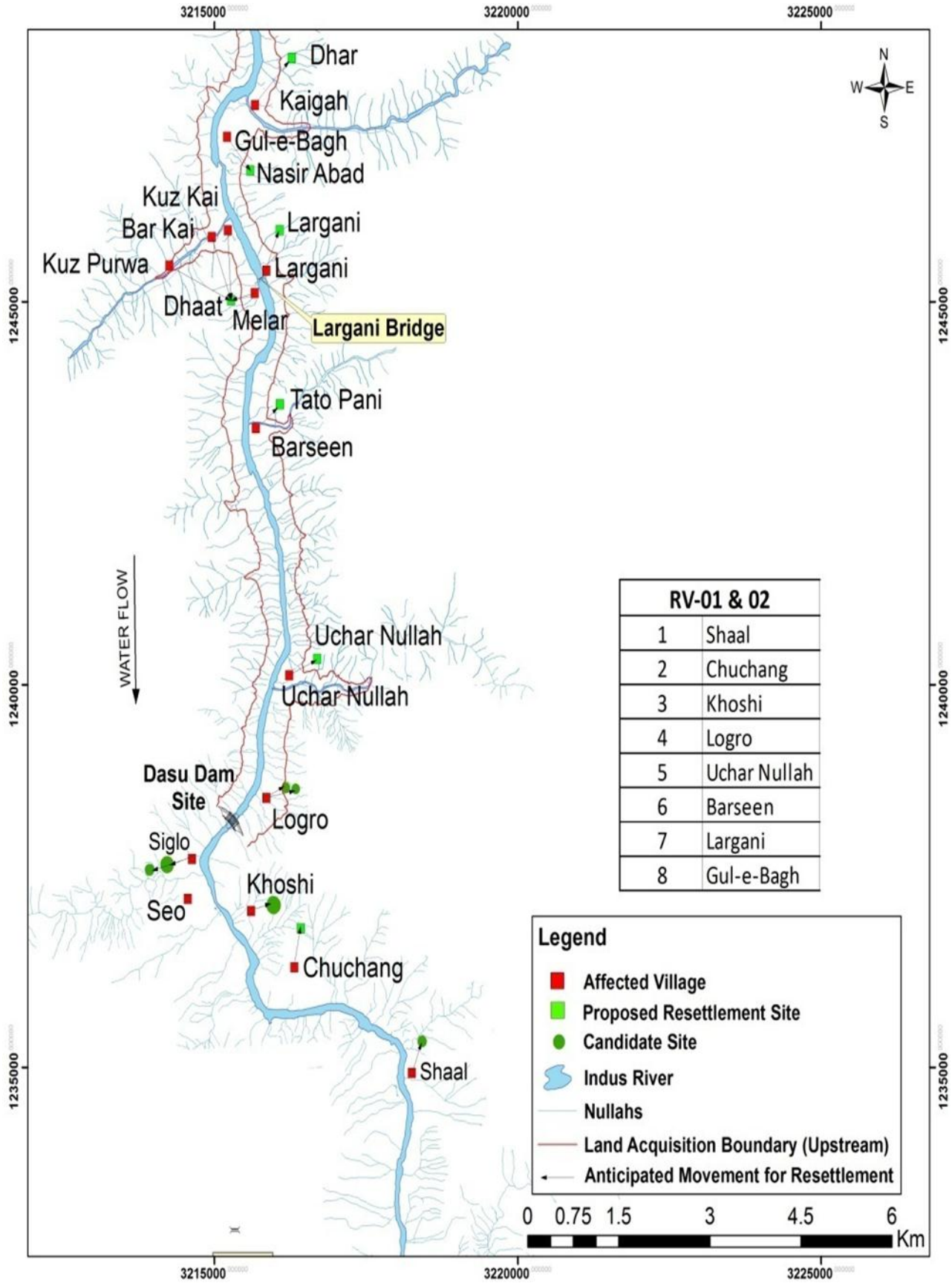
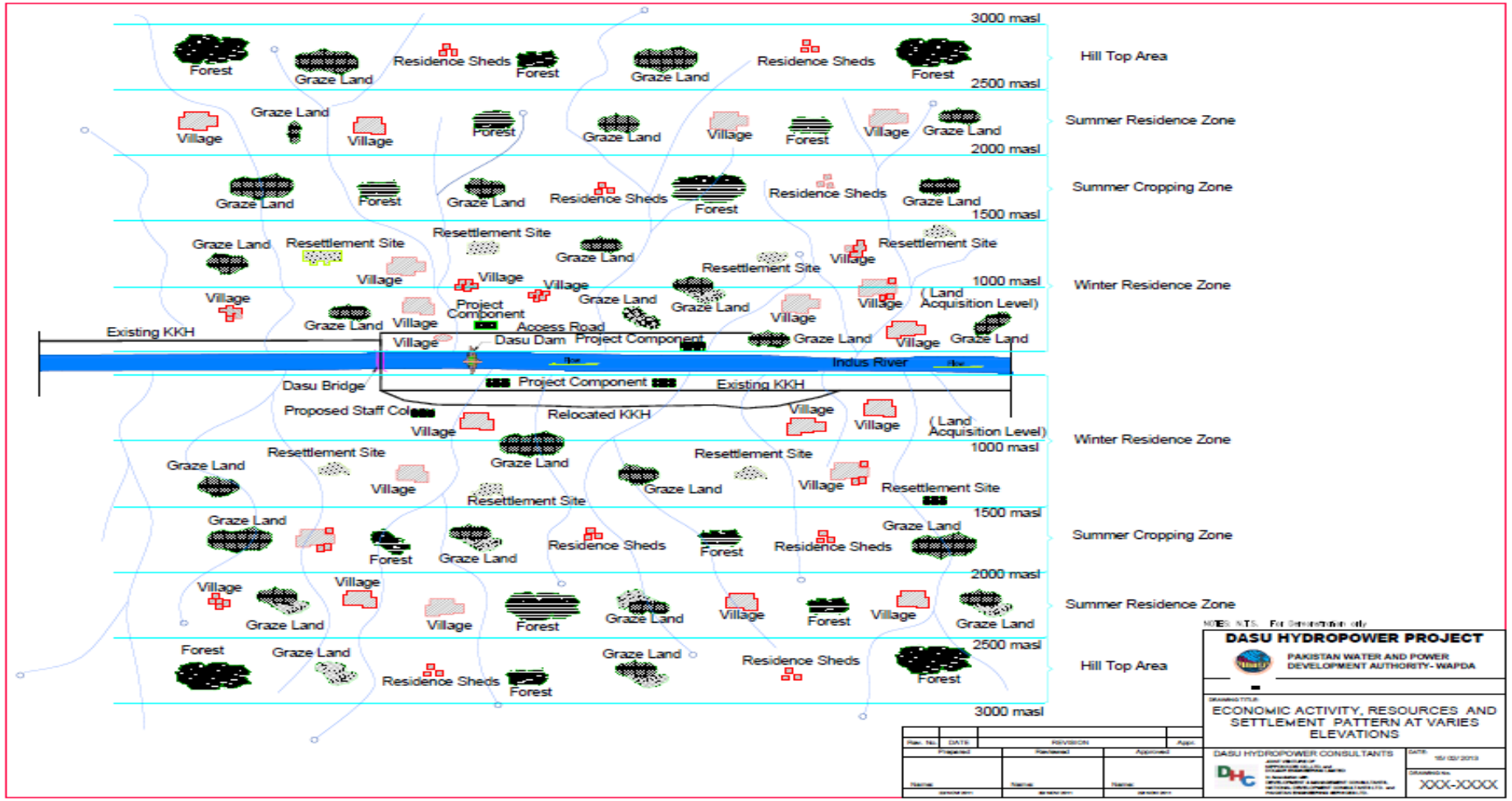
64.	Lachi Nullah	Gul Faraz	Raja Muhammad Arif	1340103881507	General Store	12	10,000
65.	Lachi Nullah	Muhammad Yahya	Muhammad Nosherwan	1340165479111	Restaurant	134	13,000
66.	Lachi Nullah	Muhammad Suffa	Haji Nawab	1340115064211	Restaurant	72	24,000
67.	Lachi Nullah	Muhammad Yahya	Muhammad Nosherwan	1340165479111	Hakeem/ Quack Clinic	11	12,500
68.	Uchar Nullah	Hakim Saeed	Muhammad Saeed	1340115071281	General Store	91	30,000
69.	Uchar Nullah	Noor Wali Khan	Qalandar	1340190077097	Karyana Shop	287	35,000
70.	Uchar Nullah	Nosher Khan	Suram Khan	1340115016769	Karyana Shop	13	30,000
71.	Uchar Nullah	Iqbal Khan	Khushi Khan	1340115097631	General Store	25	30,000
72.	Uchar Nullah	Bin Yameen	Rosheikh Khan	1340161048981	General Store	26	40,000
73.	Siglo	Muhammad Nabi	Sir Mukhtayar	1340115073349	General Store	67	55,000
74.	Chuchang	Abdul Sattar	Raj Khan	1340115004665	Karyana Shop	11	30,000
75.	Chuchang	Sona	Pancheer	1340135819539	General Store	3	10,000
76.	Summer Nullah	Muzamil Shah	Muhammad Ayyub	1340163318247	General Store	7	30,000

Appendix H: Maps

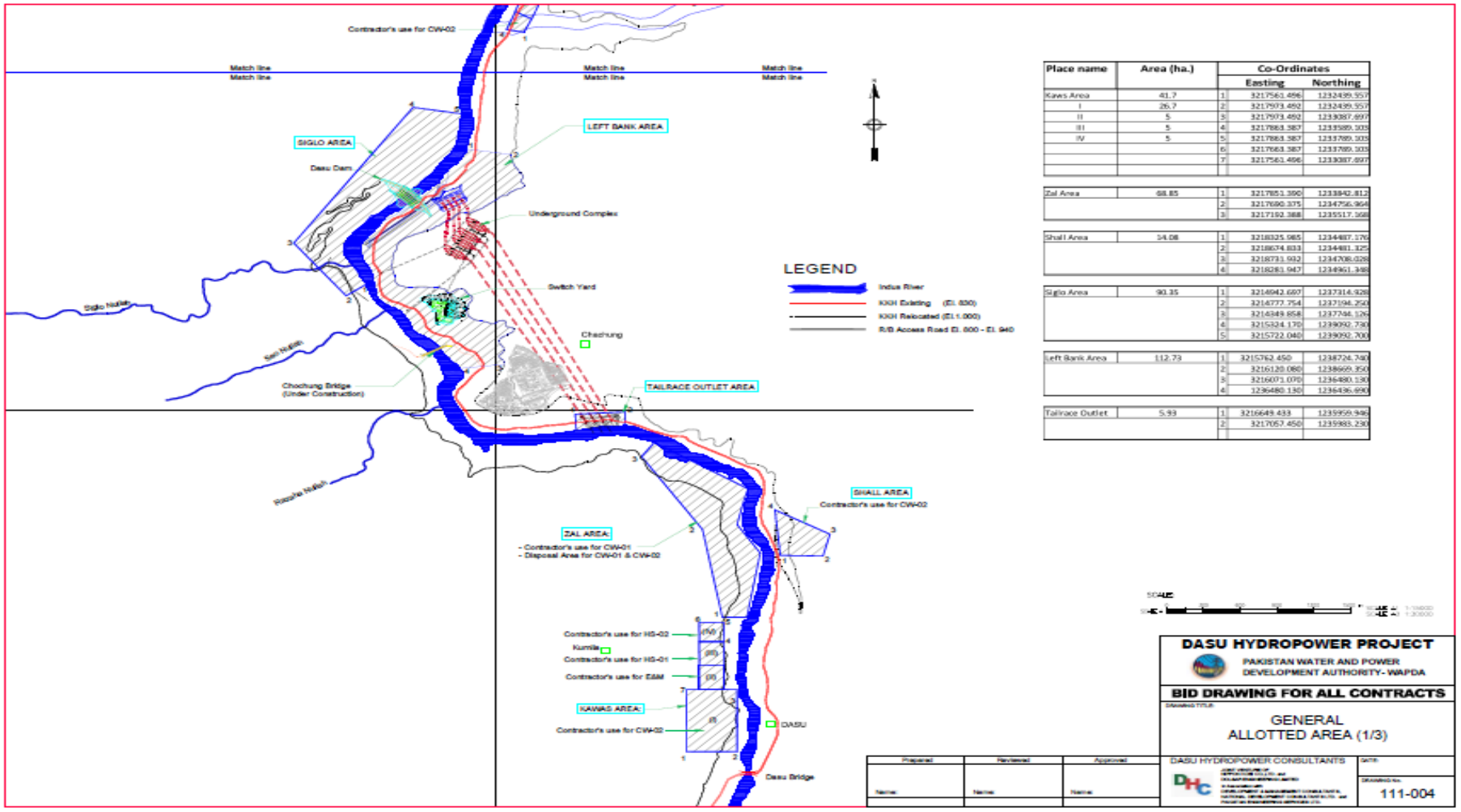
Map 1: Affected Villages and Proposed Rsettlement Sites



Map 2: Economic Activity Resources and Settlement Pattern at Various Elevations



Map 3: Various Components of the Projects (Sheet-2)



Place name	Area (ha.)		Co-Ordinates Easting	Northing
Kawas Area	41.7	1	3217561.496	1232499.557
I	26.7	2	3217973.492	1232499.557
II	5	3	3217973.492	1233087.697
III	5	4	3217863.587	1233589.303
IV	5	5	3217863.587	1233789.303
		6	3217663.587	1233789.303
		7	3217561.496	1233087.697

Zal Area	68.85	1	3217853.390	1233842.812
		2	3217690.375	1234756.964
		3	3217192.388	1235517.168

Shall Area	14.08	1	3218325.985	1234887.176
		2	3218674.833	1234881.325
		3	3218731.932	1234708.028
		4	3218283.947	1234961.348

Siglo Area	90.35	1	3214942.697	1237314.928
		2	3214777.754	1237196.254
		3	3214349.858	1237746.126
		4	3215324.170	1239092.730
		5	3215722.040	1239092.700

Left Bank Area	112.73	1	3215762.450	1238724.740
		2	3216120.080	1238669.350
		3	3216071.070	1236480.130
		4	1236480.130	1236436.690

Tailrace Outlet	5.93	1	3216649.433	1235959.946
		2	3217057.450	1235983.230