

E4351 V1

**CASA-1000 Project:**  
**Social Impact Assessment**  
**Report**

**August 2013**

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## Abbreviations and Acronyms

AJK	Azad Jammu and Kashmir
CASAREM	Central Asia South Asia Regional Electricity Market
CDC	Community Development Council
COI	Corridor of Impact (of the project)
DABS	De Afghan Breshna Sherkat (Afghanistan)
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
FATA	Federally Administered Tribal Areas
FGD	Focus Group Discussion
G-B	Gilgit-Baltistan
GDP	Gross Domestic Product
GNI	Gross National Income
HDR	Human Development Report (UN)
HVAC	High Voltage Alternate Current
HVDC	High Voltage Direct Current
IEL	Integrated Environments Ltd.
KP	Khyber Pakhtunkhwa
LARF	Land Acquisition Resettlement Framework
MDG	Millennium Development Goals
MHP	Micro Hydropower Project
MRRD	Ministry of Rural Rehabilitation and Development (Afghanistan)
MW	Megawatts
O&M	Operations and Maintenance
PHED	Public Health and Engineering Department
RoW	Right of Way
SABAWON	Social Action Bureau for Assistance in Welfare and Organizational Networking
SIA	Social Impact Assessment
T/L	Transmission Line

## Executive Summary

**CASA-1000 Project:** Under the first phase of the Central Asia South Asia Regional Electricity Market (CASAREM), a project entitled CASA-1000 is being prepared for the construction of a transmission line to enable electricity exports from the Kyrgyz Republic and Tajikistan to Afghanistan and Pakistan. The CASA-1000 project has two main components: a) a 477 km High Voltage Alternate Current (HVAC) transmission line through the Kyrgyz Republic (452 km) and Tajikistan (25 km), and a 500 kV line from Regar to Sangtuda to strengthen Tajikistan's transmission network; b) a 750 km High Voltage Direct Current (HVDC) line from Tajikistan (117 km) through Afghanistan (562 km) and Pakistan (71 km). AC-DC Converter stations are proposed at Sangtuda (1,300 MW), Kabul (300 MW) and Peshawar (1,300 MW). The estimated project cost is US\$ 970 million.

**Social Impact Assessment:** A social impact assessment (SIA) is important to identify the potential social impact of the project (in design, pre-construction and construction stages, as well as long-term), and thereby recommend mitigation and management measures. Information relevant to social aspects of the CASA-1000 project is contained in a number of previously prepared reports: an Environmental and Social Impact Assessment and community benefit sharing studies in all four countries. This SIA report collates that information into one document, filling gaps where possible using secondary sources: no additional primary research was carried out.

**Kyrgyz Republic:** 452 km of the HVAC line runs through the Kyrgyz Republic, in the three provinces of Jalal-Abad, Osh and Batken. The proposed transmission line route is very sparsely populated, passing by less than two dozen villages/towns. A survey of 25 settlements along the route found that the main sources of livelihood were agriculture and remittances from foreign workers. Access to some services, notably potable and irrigated water, was poor, and regular electricity supply was a problem particularly in winter months.

The major long-term impact of the CASA-1000 project will be on some cultivated lands, while during the construction phase disruption could be caused to local communities, e.g. in carrying out farming activities, access to roads. Negligible resettlement and permanent land acquisition are anticipated. The overall social impact is thus likely to be small and temporary, and can be addressed through the following mitigation measures: a) design stage – aligning the route to avoid settlements, public infrastructure, trees and crops; b) pre-construction stage – making compensation to affectees prior to land occupation or structures being moved or demolished or if crops will be impacted; c) construction stage – confining project staff/contractors to clearly demarcated areas, ensuring the contractors respects local norms and traditions, in particular privacy of women, controlling noise and dust emissions.

Nonetheless, community support programs are important (see rationale below). Community consultations revealed that people were largely unaware of the CASA-1000 project but, once briefed about it, articulated their needs. Chief among these was reliable and uninterrupted electricity supply; second was construction/rehabilitation of irrigative water supply systems and access to potable water; others were for improvement in access roads, and use of local workers on the project. Communities expressed willingness to contribute to development schemes, e.g. through labour. Based on these consultations, the community support programs would be developed to address these needs.

There should be a clear policy framework underpinning the programming arrangements- local communities should be involved in both decision-making and implementation, and community benefit support programs should be aligned with national strategies.

**Tajikistan:** Tajikistan is the smallest as well as the poorest country among the Central Asian republics formerly within the Soviet Union. The anticipated 25 km of the CASA-1000 HVAC line runs from the border with Kyrgyz Republic to Khudjand and onwards to Sangtuda via the existing Tajik internal grid; a further 115 km HVDC line runs from Sangtuda to Afghanistan. The route traverses sparsely populated areas in two provinces, Sughd and Khatlon. A survey of 13 settlements along the route found that, while education levels were generally high (a legacy of the Soviet era), quality of services was poor, in particular access to safe drinking water. Shortage of electric power in winter months forced people to use alternative energy sources, e.g. firewood. Communities widely practiced agriculture, but income from this was limited by households' own consumption needs, plus poor sector development; all land in Tajikistan is state-owned and 90 percent of the country is mountainous. Remittances from foreign workers were a major source of income among surveyed communities, but levels of unemployment were still high.

Given the sparse population along the proposed transmission line route, only a small number of agricultural lands (orchard and cotton fields) will be directly under the line, and no public infrastructure/utilities fall within the corridor of impact (COI). Hence the social impact of the CASA-1000 project will be very small, and easily addressed through suitable mitigation measures (as outlined above for the Kyrgyz Republic).

Community support programs along the CASA-1000 project route in Tajikistan is also important. Based on consultations with local people in affected areas, the following were identified as priority needs: improvement of electricity supply, especially in winter months; poverty reduction measures through employment; improvement in potable and irrigative water supply systems; and improved access to and quality of basic services (notably health and education). Proposed interventions would be similar to those outlined above for the Kyrgyz Republic.

**Afghanistan:** Decades of conflict have undermined development and economic growth in Afghanistan; the country is still far from sustained peace and stability. The CASA-1000 HVDC transmission line traverses Afghanistan for 562 km, passing through 616 communities in 23 districts across six provinces. A survey found that access to power in districts along the route varied from zero to 100 percent, with an average of 31 percent connectivity. Affected areas are marked by a strong tribal system; access to health and education services was found to be poor and literacy levels correspondingly low. The majority of the land in the COI was rough and mountainous with very little vegetation and generally unused. The common sources of income for local residents in the COI were agriculture, daily wage labour, transportation and small businesses. The situation of women was particularly constrained, with very limited access to education or other opportunities. Finally, land mines pose a significant risk in agricultural and pastoral land in Afghanistan.

The proposed CASA-1000 transmission line route passes through a number of settlements/villages, and in some areas through cultivated land, water courses and community infrastructure. The likely social impact of the project will therefore not be massive, but not insignificant either. There is potential for conflicts over water, as many local communities face acute shortages to meet their domestic and agricultural needs. Land acquisition will mostly be temporary. Given the highly conservative nature of Afghan society, care will have

to be taken to ensure that the privacy of women in particular is respected. These impacts can be readily addressed through the standard mitigation measures outlined above for other countries involved in CASA-1000. Workers on the project face some risks from mines in affected areas, and additional measures will be needed to address this issue.

Consultations with communities revealed a key concern in all districts that they would not be able to get direct access to on-grid connections despite the fact that the transmission line would pass through/near their neighbourhood. Their other concerns were about the possibility of their (agriculture) land and houses being affected. But locals could also see the potential economic impact of construction of the transmission line in their areas, e.g. through employment opportunities. A number of factors were used to decide priority community support projects including: current electricity coverage and existing electrification plans; potential for projects to contribute to lasting behaviour changes for the whole community and not just a few households; capacity of community to effectively plan and manage projects on their own; potential for sustainability and for multiplier effects.

Based on the analysis of focus group discussions (FGDs) held in 57 diverse communities (10 percent of communities within the 4 km COI) across 23 districts of six provinces, locals expressed the need for off-grid electricity and productive community infrastructure projects such as irrigation and roads. A number of community institutions exist in the affected areas, e.g. elected Community Development Councils, Irrigation Associations, and these could play a role in implementation of the potential support programs.

**Pakistan:** The final stretch of the CASA-1000 project is a 71 km HVDC transmission line coming from Torkham on the Afghanistan border and going through Pakistan to the Sheikh Mohammadi Grid Station on the outskirts of Peshawar. The proposed transmission line route traverses Khyber Agency in the Federally Administered Tribal Areas (FATA) and an area outside Peshawar falling under the Peshawar District Administration.

The community survey divided the route into three sections for analysis purposes: peri-urban just outside Peshawar, rural and bordering Afghanistan. There are significant tribal and other differences between these three sections. The survey found the overall literacy for the entire region to be 37 percent, with much higher male than female literacy. However, over 93 percent of this was only functional literacy; the educational attainment level of those reported literate was marginal and limited. Conservative attitudes played a major role in the opposition to education, particularly for women. Land use for agriculture was extremely limited because of the largely barren and in places hilly nature of the terrain: households with agriculture as a major source of income ranged across the three sections from zero to just 16 percent. The survey found that all households owned the land on which they lived, with the majority of households organized into a compound system. The concept of privacy and *purdah* for women was very strictly practiced. Average in-house availability of safe drinking water in the COI villages was 57 percent, and only 24 percent of surveyed households reported having an in-house pour flush latrine. While all villages were officially declared as 'electrified' or connected with the national grid, power outages were extensive and a further problem was low voltage supply. The active presence of the Taliban and continued military operations along parts of the route, notably Khyber Agency, had severely impacted electricity supply and other services. The main sources of livelihood were labour/daily wage earning, followed by business; legal livelihood opportunities were few.

As with other countries involved in the CASA-1000 project, the social impact of the project is likely to be very small: no permanent land acquisition is anticipated, just some temporary land

acquisition, e.g. for Contractor's camps; damage to crops and trees will be minimal, and the project will generate some livelihood opportunities for local people. The few negative impacts are relatively easy to address through the mitigation measures outlined above for the other CASA-1000 countries. Perhaps the bigger problem in Pakistan is the highly tribal nature of local society, and the on-going militancy and military operations in and around affected areas. Both these factors make it even more important to build local ownership of the project through community support schemes.

Based on consultations, the study concluded that the priorities for communities along the COI were provision of electricity, employment opportunities, safe drinking water and girls' primary schools. The Khyber Pakhtunkhwa (KP) Government policy of the Public Health and Engineering Department (PHED) constructing water supply schemes and operations and maintenance of these being handed over to beneficiary communities would be followed. Villages were identified as needing safe drinking water supply interventions and support for girls' primary schools could be provided through community-private sector partnerships. Community members also proposed an alternate route for the transmission line - sharing part of the existing 132 kV Peshawar-Torkham transmission line. This crosses barren hilly and mostly uninhabited area; on this route, seven settlements would fall within the COI.

**Community Support Program Rationale:** As the report shows, the overall social impact of the project in all countries is generally very low, and manageable through straightforward mitigation measures. However, it is important to take a broader approach to social management for several reasons. One, the transmission line will be high voltage and hence communities en route will not be able to derive power from it. Access to power is a significant problem for virtually all regions along the route of the transmission line. This leads to an equity issue between those within the right of way who will not benefit directly from the line, and the larger society that will benefit. Unless efforts are made to address this inequity, it could lead to local disappointment and frustration, which could in turn affect the project's implementation and operation in the long run. It is also important to create local ownership of the project to mitigate any potential risk of it being targeted by parties with ulterior motives. For all these reasons community support programs need to be prioritized.

## 1. INTRODUCTION

### 1.1 CASA-1000 PROJECT DESCRIPTION

The Kyrgyz Republic, Tajikistan, Afghanistan and Pakistan are pursuing the development of electricity trading arrangements and the establishment of a Central Asia - South Asia Regional Electricity Market (CASAREM). Since 2005, these four countries have intensified their cooperation with each other as well as with a variety of International Financial Institutions (IFIs), including the World Bank and Islamic Development Bank.

A key aim of the CASAREM initiative is the proposed development of a cross-border electricity interconnection linking all four countries to facilitate the transfer of surplus summer power from the Kyrgyz Republic and Tajikistan, southwards to Afghanistan and Pakistan.

The first phase of CASAREM is to establish the necessary transmission and trading infrastructure and systems to enable a trade of 1,300 MW of electricity between Central Asia and South Asia, and is referred to as "CASA-1000". It is envisaged that the major share of

this export will be used by Pakistan (1,000 MW), with the remaining quantity of power (up to 300 MW) will be imported by Afghanistan.

The CASA-1000 Project consists of an HVAC and HVDC components:

- a 477 km 500 kV AC transmission link between Kyrgyz Republic (452 km) and Tajikistan (25 km) and a 500 kV line from Regar to Sangtuda to strengthen Tajikistan's transmission network, to supply Kyrgyz electricity to South Asia via Tajikistan. Population centres have been avoided as much as possible, as are enclaves of Uzbekistan and Tajikistan located within Kyrgyz Republic boundaries.
- a 750 km 500 kV HVDC) transmission system between Tajikistan (117 km) through Afghanistan (562 km) to Pakistan (71 km). Key population centres along the route include Kabul, as well as the towns of Kunduz, Baghlan, Pul-e-Khumri, Raqi, Mehtar Lam and Jalalabad. Wherever possible, population centres will be avoided. AC-DC Converter stations are proposed at Sangtuda (1,300 MW), Kabul (300 MW) and Peshawar (1,300 MW).

The estimated project cost is US\$ 970 million.

## **1.2 SOCIAL IMPACT ASSESSMENT**

### **1.2.1 Background**

A feasibility study for the CASA-1000 project was originally financed by the Asian Development Bank and undertaken by SNC Lavalin of Canada. The study was carried out in two phases, with Phase 1 covering a pre-feasibility assessment of the technical and economic viability of the transmission interconnection, and Phase 2 providing the detailed feasibility analysis of the project. The Phase 1 report was completed in December 2007 and the Phase 2 report in January 2009. An update of the feasibility study was carried out and completed in February 2011.

The Asian Development Bank subsequently suspended their involvement in the project and the World Bank was approached in mid-2009 for continued technical and economic feasibility support by the four CASAREM governments. The World Bank decided to continue the technical and feasibility study by SNC Lavalin.

Environmental and social assessments are an integral part of the upfront feasibility work that must be presented to potential financiers of the project. The findings on social and environmental safeguards and required mitigation actions are critical for estimating overall project cost and ensuring compliance with World Bank safeguards standards. Although some preliminary environmental and social assessments of the CASA-1000 project were undertaken by SNC Lavalin, World Bank practice requires that in a Bank funded project, the engineering consultant cannot also complete environmental and social studies. Rather, they must be conducted by an entirely separate consultant working in close coordination with the engineering firm.

Hence in December 2010, Integrated Environments (2006) Ltd. (IEL) of Canada was retained to complete an Environmental and Social Impact Assessment and Environmental Management Plan (ESIA/EMP) of the CASA-1000 project. For the social assessment IEL relied on the field surveys conducted by SNC Lavalin, but complemented these with newly acquired 6 meter resolution satellite imagery for the entire proposed transmission line route; these were used to prepare social alignment sheets. IEL prepared a comprehensive

Environmental and Social Management Plan (ESMP) providing a framework as to how environmental and social impacts of the CASA-1000 project could be managed, particularly during the construction phase where the majority of impacts are expected to occur. Implementation of the ESMP aims to ensure that effective mitigation measures are put into place that link to the ESIA, that address data gaps and that provide a process for inclusion of social and environmental provisions into any loan covenants. IEL submitted their report *ESIA and ESMP of the Central Asia South Asia Electricity Transmission Project (CASA 1000): Feasibility Stage* in 2011.

During 2011-2012 studies on community benefit sharing options were carried out for the four countries involved in the project. In the Kyrgyz Republic and Tajikistan the work was done by Foundation to Support Civil Initiatives, in Afghanistan by UN-Habitat, and in Pakistan by the Social Action Bureau for Assistance in Welfare and Organizational Networking (SABAWON). These reports were completed in October 2012 (Foundation to Support Civil Initiatives) and December 2012 (UN-Habitat Afghanistan and SABAWON).

### **1.2.2 Aims and Methodology**

A social impact assessment is important to identify the potential social impact of the project, in particular during the construction stage, and thereby recommend mitigation and management measures. All the above reports – the IEL ESIA and ESMP and the three community benefit sharing reports– contain information relevant to social issues under the project.

This report collates the information relevant to the social impact of the CASA-1000 project and mitigation of these. As such, it draws almost exclusively on the previous reports prepared under the project, listed above. It is important to point out that the level of information/detail given about the four countries, or even about different social aspects (e.g. situation of women in affected areas, sources of livelihood) varied considerably. In general, there was more information about Afghanistan and Pakistan than about the Kyrgyz Republic and Tajikistan. These differences are reflected in the differing levels of detail in each of the country chapters in this report. Where available, information gaps have been supplemented by research from secondary sources. However, no additional primary research was carried out for the preparation of this report.

The report is divided into four main chapters on each of the countries involved in the CASA-1000 project: Kyrgyz Republic, Tajikistan, Afghanistan and Pakistan. Each chapter is divided into three broad sections: the first gives a brief country context followed by a description of the socioeconomic profile of affected regions; the second looks at the likely social impact of the CASA-1000 project; and the third suggests social impact mitigation measures, including options for community support interventions.

## **2. KYRGYZ REPUBLIC**

### **2.1 SOCIO-ECONOMIC PROFILE**

#### **2.1.1 Country Context**

The Kyrgyz Republic is a landlocked, mountainous country in Central Asia, bordered by Kazakhstan to the north, Uzbekistan to the west, Tajikistan to the southwest, and China to the east. Formerly part of the Soviet Union, the country gained independence in December 1991 as the Republic of Kyrgyzstan, but officially changed its name to the Kyrgyz Republic in

1993. The population as of 2011 was just over 5.5 million. The Kyrgyz Republic is a low income country, largely dependent on agriculture, and with high levels of poverty and weak human development indicators.

#### **a) Political System**

The country has a federal structure, with a single legislative chamber. Administratively it is divided into provinces (*oblast*); there are nine provinces including the main cities of Bishkek (the capital) and Osh which have the status of provinces. Each province comprises a number of districts (*raions*). Since independence in late 1992, the country has seen periodic political unrest and ethnic violence. An uprising in 2005 forced the then President to resign, and led to the formation of a new government under President Bakiyev. Five years later civil unrest against perceived widespread corruption and rising living costs, led to the collapse of Bakiyev's government. Clashes, including between majority Kyrgyz and minority Uzbeks, led to several hundred people being killed and over 300,000 being displaced from their homes. Presidential elections were held in November 2011. Corruption remains a widespread problem: the 2008 Corruption Perception Index scored the country 1.8 on a scale of 0 (most corrupt) to 10 (least corrupt).

#### **b) Economy**

The country's economy and public services were badly hit by the collapse of the Soviet Union and the removal of both subsidies from Moscow and access to the Soviet market. After 1992 a massive program was undertaken to transfer ownership of factories, enterprises, houses, land and so on from the state to private citizens/entities. Natural resources such as mountains and forests, and sites of historic or cultural value remained state property. The transition to a market economy was not easy: closure of industrial plants and break up of collective farms led to increased unemployment. Market-based economic reforms in the 1990s did eventually cause productivity to reach pre-independence levels, but services suffered due to lack of public investment. GDP growth rate in 2011 was 5.9 percent, but this has shown huge fluctuations over the previous decade (e.g. 0.0 percent in 2002, 8.2 percent in 2007, and 2.3 percent in 2009). Growth was also negatively affected by the recent global economic crisis and political unrest in 2010. Per capita GNI in 2011 was US\$ 920.

The economy is heavily dependent on remittances from workers abroad, mostly in the Russian Federation. In 2009 these accounted for about 40 percent of GDP. It is estimated that some 1 million citizens of the Kyrgyz Republic are working in the Russian Federation.<sup>1</sup>

The (other) main sectors of the economy are agriculture, mining and energy. The agriculture sector accounts for about a quarter of the country's GDP and about one-third of employment. Under the Soviet Union farms were generally state owned, but as noted land reform was carried out to privatize farms, leading to initial reduced agricultural productivity and hardships for local people. The government also created a rural bank and agribusiness/rural advisory services, and established water user associations and pasture committees.

The Kyrgyz Republic is rich in mineral resources including coal, gold, uranium, antimony and metals. Mining constitutes about 26 percent of tax revenues, about 10 percent of GDP, and 50 percent of export earnings. However, the country is failing to realize the full potential from mining. This is partly because many mineral deposits are located in hard-to-reach

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<sup>1</sup> *Study on Community Benefit Sharing Arrangements in Tajikistan and Kyrgyzstan*, (Foundation to Support Civil Society Initiatives, October 2012).

mountain areas, and their exploration and extraction requires vast resources. It also stems from past failures in strategic planning and thus in developing the requisite infrastructure and technology. The Kyrgyz Republic today lacks the resources to carry out investments needed to fully benefit from its rich mineral reserves.

The energy sector accounts for around 3.9 percent of GDP and 16 percent of industrial production. The bulk of the country's current generating capacity is hydropower; this accounts for 2,948 MW (82 percent) out of a total installed capacity of 3,586 MW. The key challenges faced by the sector are high commercial losses and low tariffs, leading to inadequate funding for maintenance and investment, winter energy shortages, and governance issues. These factors, as well as lack of regional cooperation and lack of clarity about the main electricity export market, mean that the Kyrgyz Republic (as well as Tajikistan) have been unable to realize the full economic potential of hydropower.

Since the beginning of this century, unscheduled power disruptions have become the norm in both Kyrgyzstan and Tajikistan. A 2002 household energy survey found that interruptions ranged from a few hours to 6-8 hours per day in some rural areas.<sup>2</sup> A related problem identified by the survey was weak voltage meaning, for example, that people were unable to use their refrigerators because of insufficient voltage; some respondents even reported using candles for light because these were brighter than light bulbs operating under low voltage. Lack of power, particularly in the winter months, is a major problem hampering quality of services (e.g. schools lack heating), undermining industrial productivity and entrepreneurship, placing strain on natural resources (as, for example, people cut down trees for firewood), and placing a burden on national finances as the country has to spend large amounts on fuel imports. Development of the country's full hydropower potential could greatly ease the power crisis faced in winter months.

#### **c) Population Demographics and Development Indicators**

The total population in 2011 was 5.5 million. The bulk of the population (two-thirds) live in rural areas, as do the majority of the poor. The Kyrgyz Republic has a young population: in 2007 35 percent were under the age of 15 and only 6.2 percent were over the age of 65. The population is ethnically very diverse, though the majority (70 percent in 2007) are Kyrgyz followed by Uzbeks and ethnic Russians, and then smaller groups such as Tajiks and Kazakhs. There has been a change in ethnic composition in recent years prompted by political developments, e.g. following independence large numbers of ethnic Germans migrated; similarly, unrest and clashes in 2010 caused some minority groups such as Russians to leave the country.

The Kyrgyz Republic consistently fares poorly in human development rankings: its HDR ranking dropped from 102 in 2000 to 125 in 2012. Poverty levels fell from 52 percent in 2000 to 31.7 percent in 2008, but political unrest, the global economic crisis and food price increases in 2011 and 2012 have reversed these earlier gains. The absolute poverty rate increased from 33.7 percent (including 5.3 percent living in extreme poverty) in 2010 to 36.8 percent in 2011. Almost three-fourths of the poor live in rural areas.

#### **d) Situation of Women**

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<sup>2</sup> *Impact of Electricity Sector Reform in the Kyrgyz Republic: Households, Electricity Sector, Budgets, Poverty and Social Impact Analysis of WB Electricity Sector Reform Project in the Kyrgyz Republic, (World Bank, 2002).*

By law women are equal to men and enjoy equal rights. But historically in Central Asia, women are generally subordinate to men and have less access to education, economic resources and political power. This situation varies somewhat from one ethnic group to another and from one community to another. However, women generally work harder and longer than men; in rural areas they are responsible for household chores, fetching water and farming.

The number of women in politics and government is low, both at local and national levels. 'Women's absence from public life fuels the existence of discriminatory stereotypes and customs ..... When women's voices are not part of government, gender concerns are frequently relegated to the bottom of state priorities. This becomes a vicious circle, leading then to legislation and policy-making that is not gender-sensitive and that may be discriminatory to women, even if not explicitly so.'<sup>3</sup> However, there have been some significant improvements: there is now a 30 percent gender quota of women in party lists of electoral candidates, which has led to more women legislators (25 in the 120-member parliament in 2011) and thus to the tabling of many more bills relating to women's issues. A handful of women have held senior positions in government, notably the former President Roza Otunbayeva; but as of October 2011 women occupied only 19 percent of the 675 senior government positions.<sup>4</sup>

Violence against women is widespread, in particular domestic violence. Cultural attitudes often prevent women reporting such attacks, and also mean that little action is taken by the police or courts. The practice of 'bride kidnapping' whereby a man forcibly kidnaps a woman to marry her, often associated with domestic violence and abuse, is seen by some as a 'tradition' in the Kyrgyz Republic. It is estimated that there are at least 11,800 such forcible bride kidnappings every year, accounting for 35 percent of all marriages in the country, with only one in 1,500 cases receiving judicial punishment.<sup>5</sup> In December 2012, however, legislation was amended to toughen sentences for bride abductions.

### 2.1.2 Affected Regions

The CASA-1000 design includes a 477 km 500 kV line from the Kyrgyz Republic south to Tajikistan. Of this total, 452 km runs through the Kyrgyz Republic. The route generally traverses areas of low population densities through the three southern provinces of Jalal-Abad, Osh and Batken.

The assessment below is based on the findings of a study on community benefit sharing arrangements in Tajikistan and the Kyrgyz Republic, conducted in 2012 by the Foundation to Support Civil Initiatives. In the Kyrgyz Republic the study surveyed 3 settlements in Jalal-Abad oblast, 11 in Osh oblast, and 11 in Batken oblast. The total number of households in these settlements was 7,543 with 8,454 families and a total of 42,685 people. Figures for the total population of the affected areas in Kyrgyz Republic are not available.

#### a) Population

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<sup>3</sup> *Promoting Rural Women's Rights to Land: UN Women programme experience in Kyrgyzstan and Tajikistan*, (UN Women, June 2012), p. 2. <http://www.unwomen.org/wp-content/uploads/2012/07/EP-Promoting-rural-women%E2%80%99s-rights-to-land-UN-Women-programme-experience-in-Kyrgyzstan-and-Tajikistan.pdf>

<sup>4</sup> *Kyrgyz Republic 2012 Human Rights Report*, (US Bureau of Democracy, Human Rights and Labour). <http://www.state.gov/documents/organization/204614.pdf>

<sup>5</sup> <http://www.unwomen.org/2013/02/new-law-in-kyrgyzstan-toughens-penalties-for-bride-kidnapping/>

In the 25 settlements/communities surveyed in the three *oblasts*, the total population was 42,685. In villages in Osh and Batken the population was mostly Kyrgyzs (90 and 96 percent respectively), but in Jalal-Abad the majority (66.7 percent) were Uzbeks with Kyrgyz forming 26.7 percent. The proportion of men and women was approximately equal: 51 percent women, 49 percent men – the slight difference can be accounted for by the greater number of male workers going abroad. Family sizes were generally large among the surveyed population: 35.3 percent of households had 5-6 members and a further 28.2 percent had 6-7 members, while 13.9 percent had 8 or more members. Most households comprised single families, but a small number comprised two or three families.

Education levels among those surveyed were generally up to secondary level: only 11.5 percent of respondents had completed higher education, while 68.3 percent had completed general secondary education. Disaggregated by gender, a greater proportion of women (76.1 percent) had general secondary education than men (64.0 percent), but more men than women had higher education (14.0 percent and 6.8 percent respectively).<sup>6</sup>

#### **b) Land Use and Access to Services**

The surveyed villages were located at varying distances from district or provincial administrative centres, but all had access to permanent roads to the respective centres. Average land ownership per household was just 1.53 acres, of which the bulk was arable land (0.78 acres average) and garden (0.60 acres).<sup>7</sup>

Under Soviet rule, all services were provided by the state – school facilities, health centres, even barber shops, sports and recreational facilities. However, following the collapse of the Soviet Union, service provision shifted from the state to a market system, in which the state's role is largely confined to providing support for the most vulnerable groups to access basic services. While the situation with regard to access to services in project affected areas prior to independence (i.e. under the Soviet Union) is not known, the 2012 community benefit survey found access to services to be quite poor.

Of the communities surveyed in the Kyrgyz Republic, all three in Jalal-Abad province reported limited access to potable and irrigative waters, 9 out of 11 in Osh province reported limited/no access, and 4 out of 11 in Batken province reported limited access. Lack of irrigated water systems was found to hamper farming. In Osh 7 out of 11 communities reported no access to basic medical services; all communities in Osh and Batken reported insecure electricity supply especially in winter. In Batken 8 out of 11 communities said their access road (or parts of it) was in bad condition; a number also said the condition of the schools needed repair.

The community survey found that some rural schools were built through collective community action (*hasher*). Clay was usually used for this, being the most readily available material. It noted that in such schools there is usually no proper floor or ceiling, and rest rooms are in very poor condition; many girls have to go home during breaks. The survey also found that most rural schools did not have running water; students brought drinking water from home or used water from unsafe sources such as irrigation channels. In rural schools there was practically no gymnastics or sports equipment for physical education lessons: these were conducted outdoors, even in rain and snow, resulting in many children falling ill. The shortage of electricity commonly seen in winter months, led schools to rely on wood, coal or

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<sup>6</sup> Table 7, *Community Benefit Sharing Study, op. cit.*

<sup>7</sup> Table 14, *ibid.*

dried manure for heating; this in turn caused children to suffer ill health (headaches, respiratory diseases) caused by indoor smoke.

The community survey report states that access to safe water in rural areas is about 45 percent, as compared to 95 percent for people in urban areas. It notes that many residents in rural areas use water from irrigation channels and rivers, which can cause high rates of infectious diseases. Each year, in particular during the summer months, water borne epidemics hit different regions of the country, causing many people to become ill and even some deaths. More than 50 percent of hospital patients were found to be suffering from gastrointestinal disorders normally caused by water-borne pathogens.

For sanitation, the survey found that the most common type of toilet used was a cesspit or pit (hole) with a deck covering; as soon as the pit is full it is covered and a new pit is dug. Such toilets are usually found located at the outskirts of a household compound. In the surveyed villages there was no centralized system for garbage collection; the most common method was to dig a hole for rubbish, and bury the garbage in it. In the communities surveyed, 62.2 percent of households reported that they had a special pit for garbage in their yards, 10 percent said they burnt their rubbish, and 16 percent said their village had a public municipal pit into which they emptied rubbish. Finally, of the communities surveyed in the Kyrgyz Republic, 80 percent had a mosque, 16 percent public baths and 17 percent a teahouse.<sup>8</sup>

#### **c) Access to Power**

Under the centrally planned Soviet system, energy resources were shared within the Central Asian region: excess production of hydropower by what are now the Kyrgyz Republic and Tajikistan would be used to meet the summer energy needs of neighbouring regions (Kazakhstan and Uzbekistan), while their production of electricity using gas and fuel oil would be used to meet winter needs in the Kyrgyz Republic and Tajikistan. The collapse of this system of sharing has led to severe power shortages in the Kyrgyz Republic and Tajikistan in winter months when hydropower generation is low.

Over half of the surveyed community (53.2 percent) described the power supply situation as somewhat good, but 18.3 percent called it moderately bad and 8.7 percent very bad. In winter months, people reported using alternative energy sources notably coal, firewood, kerosene and diesel fuel. Electric power was being used largely for domestic purposes – light, heating, cooking – with only 7 percent reporting using it for work. This reflects the largely agrarian economy.

#### **d) Sources of Livelihood**

Levels of social and economic development in the mountain districts through which the CASA-1000 transmission line route will pass are generally low. The region is rich in mineral resources but the difficult terrain and lack of resources for investment in exploration and extraction mean that these are not being exploited.

The community survey found that the local population was mainly engaged in agriculture: cultivation of crops on arable land, kitchen gardens (growing tomatoes, cucumber, onion, potato, etc), and cattle farming. A further major source of income was remittances from foreign workers. High levels of unemployment (40.1 percent in the surveyed population led to between 13 and 15 percent of the population – every second working person - working abroad, largely in the Russian Federation. About 80 percent of the migrants were men, but an increasing number of women were also going abroad for work. Much of the labour migration

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<sup>8</sup> Table 15, *ibid.*

was seasonal and recurrent, since domestic ties are strong. But over the last 3-4 years there has been an increase in the duration of migration with some workers going for a few years at a time and some even taking Russian citizenship.

The three main sources of household revenue among the surveyed communities were entrepreneurship (average US\$ 261 per month), farming (US\$ 255/month) and remittances (US\$ 251/month).<sup>9</sup> Salaries, hired labour and pensions/benefit accounted for an average US\$ 146, US\$ 117 and US\$ 115 respectively per month.

To a large extent the communities were self-sufficient for food. Agriculture products such as potatoes, tomatoes, onions, wheat and fruits were used to meet household needs as well as sold for income. Livestock (notably cattle and goats) and poultry also contributed to household food security. Nonetheless, spending on food accounted for US\$ 119 of average household expenditure – the biggest item. The other main reported expenses were on education (US\$ 86) and clothes (US\$ 81).

#### e) **Situation of Women**

The survey found very limited data on women. It reported that a slight majority of those surveyed were female (51 percent), and that their access to basic services such as education was less than that of men. Moreover, women generally work harder and longer hours, taking care of household chores, farming and children. Their position within society was perceived to be less than that of men. Single mother households (those with a female head due to divorce/husband's death) faced particular stress due to economic hardship (see below). Employment opportunities for women were found to be very limited: 46.6 percent of women were housewives, 20.5 percent were pensioners, and 19.3 percent described themselves as unemployed.<sup>10</sup>

#### f) **Vulnerable Groups**

The community survey identified the following main types of vulnerable groups among surveyed communities: households with more than 5 children; households with one head of family, in particular female headed households; rural families not involved in agricultural production; old people and those with disabilities not living with families; families involved mostly in cattle herding; members of *dehkan* and/or collective farms which produce cotton; and households with more than one family. However, of these the survey findings only allow estimates of the first category, households with more than 5 children – approximately 14 percent of those surveyed. Figures for the other categories are not given, though a reported 50 percent of households have members who are dependents, disabled or sick.<sup>11</sup>

*i) Households with more than 5 children* – Large families were in the most difficult economic situation because the mother was usually not working and the father was unable to meet all the family's needs. It also found that in large households the level of economic activity was much lower and unemployment twice as high as in other households. The vulnerability of large families in the labour market can be attributed to their relatively low educational level and lack of professional skills. This is reflected in the fact that a high proportion of workers from such families were employed as unskilled workers with the lowest earnings. Such families would benefit greatly from self-employment opportunities, notably in agriculture.

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<sup>9</sup> Table 19, *ibid.*

<sup>10</sup> Table 10, *ibid.*

<sup>11</sup> Table 9, *ibid.*

ii) Households with one head of household, particularly female headed households - Economic crisis and high levels of migration have had a dramatic impact on the marital status of families. Families with only one male head of household were very rare, due to the fact that men often marry again. Families with one female head of household were more common, both because of migration (husbands working abroad) and because of divorce/death of the husband. The former could not really be considered vulnerable because they received remittances from male family members working abroad. The latter, however, were found to be very vulnerable. High female unemployment and limited access for women to basic institutions that could lead to opportunities (education, training, skills development), combined with responsibility for bringing up children, placed great stress on women. [It should be noted that girls in rural areas are less likely to be sent to school than boys, and they rarely get a high school education.] Such 'single mother' families adopted survival strategies such as using home gardens to generate income and getting outside assistance. The study found a tendency among women heading needy families to limit expenses and for women specifically to 'go without' (e.g. food, clothes, socialising) and make sacrifices for their children. The study also found that sole breadwinner women were only rarely assisted by relatives and friends. They did, however, receive some state support, e.g. cash and housing subsidies, certain benefits and allowances.

iii) Families not involved in agriculture - The study found such families to be vulnerable because of low salary rates, poor job quality and widespread underemployment.

iv) Elderly and disabled - Elderly and disabled people faced a number of problems: lack of professional services in rural areas, e.g. doctors, psychiatrists; limited sources of public and private support; very limited opportunities for employment, leading to economic dependency/hardship; lack of adequate health care and dietary intake.

v) Families mostly engaged in cattle herding - Such families were found to be vulnerable because they often lived far from settlements and thus had very limited access to basic services, e.g. health, education. This in turn could lead to further social exclusion, limited opportunities, and unemployment/underemployment. A related problem was low wage levels and poor living conditions.

vi) Members of dehkan/collective farms producing cotton - These people were found to be vulnerable because they completely depend on cotton cultivation for their income, and are thus at risk from fluctuations (drops) in cotton prices. In case of adverse pricing, some people became bankrupt, unemployed and/or even homeless.

vii) Households with more than one family - Households with more than one family were usually those with several generations of an extended family living together, either for reasons of tradition or for economic reasons (inability to afford separate homes). Such people were identified as vulnerable because they often belonged to the poorest social group with the least education, and their way of life was 'outdated' and patriarchal. They also suffered from shortage of land, water and other resources.

## 2.2 PROJECT IMPACT

### 2.2.1 Methodology

As noted above, the CASA-1000 design includes a 477 km 500 kV line from the Kyrgyz Republic south to Tajikistan. Of this total, 452 km runs through the Kyrgyz Republic. The route generally traverses areas of low population densities through the three southern provinces of Jalal-Abad, Osh and Batken.

The social impact assessment of the CASA-1000 project on affected areas in the Kyrgyz Republic is largely based on the *ESIA and ESMP of the Central Asia South Asia Electricity Transmission Project (CASA 1000): Feasibility Stage* submitted in 2011 by Integrated Environments Ltd. The IEL ESIA entailed the preparation of environmental and social alignment sheets, using new satellite imagery to document specific environmental and social concerns and proposed mitigation measures along the entire CASA-1000 transmission line route.

In the case of other countries detailed field surveys were conducted, but in the Kyrgyz Republic the planned detailed field survey was not completed – only a preliminary field survey was undertaken in October 2008. The ESIA thus relies virtually entirely on the environmental and social alignment sheets. While on the one hand, this is far from an ideal situation, on the other, the sparse population along much of the proposed transmission line route means that the findings of the ESIA can largely be considered to be accurate.

### 2.2.2 Social Features Based on Alignment Sheets

Table 1 below details the social impact issues gathered from alignment sheets for the whole length of the proposed transmission line route through the Kyrgyz Republic.

**Table 1: Social Features along CASA-1000 project route in the Kyrgyz Republic as gauged from environmental and social alignment sheets**

Alignment Sheet	Description of Social Impact
AS-003	None
AS-004	Proposed T/L route crosses the Syr Darya River and agricultural communities. Numerous small river crossings in the area. Also a strong presence of agricultural lands and community infrastructure within the COI. The COI intersects access roads and a major rail network.
AS-005	None
AS-006	None
AS-007	Proposed T/L route crosses the Syr Darya River near the community of Korgon. Korgon is a village situated in Jala-Abad province. A rock quarry is located approximately 15 km NE of Korgon. The COI includes watercourses, community infrastructure, roads and vegetated areas
AS-008	Proposed T/L route passes through a sub-mountainous area and cultivated fields. There are small pockets of communities west of the Syr Darya River
AS-009	Town of Shadymyr (Batken province) is located 2 km north of the proposed T/L route; the route then passes through cultivated lands and the town of Ravat
AS-010	A major river and a highway run parallel to the COI
AS-011	A major river parallels the COI
AS-012	Proposed T/L route passes through agricultural fields: rice farming is the major occupation of the area.
AS-013	Proposed T/L route passes through land owned by the government and land use type

	is undisturbed. The town of Bulakbashi (Batken) is located 1.5 km south of the COI. The town of Subash is located 600m north of the COI
AS-014	None
AS-015	None
AS-016	The land use type changes from undisturbed to cultivated as the land is shared by the government and local communities.
AS-017	Land use type in the proposed T/L route includes undisturbed lands, roads, and cultivated areas; there is also community infrastructure. The town of Gaz is transected by the proposed T/L route.
AS-018	None
AS-019	None
AS-020	Khaidarkan is located 2 km north of the COI. The town resembles an urban type of settlement due to the presence of an airport and residential communities
AS-021	None
AS-022	None
AS-023	None
AS-024	Proposed T/L route intersects the community of Kyzyl Bulak (Nookat District of Osh province) with a population of 2,932; the community is located adjacent to a major river system.
AS-025	Communities are located 0.5 km south of the COI. There are four major land uses: undisturbed, cultivated, road, and community infrastructure.
AS-026	Proposed T/L route passes adjacent to agricultural fields. There are watercourse crossings and small pockets of community infrastructure along the COI.
AS-027	The land use type includes undisturbed lands, cultivated lands, road and associated community infrastructure. The town of Utch-Kurgan (Batken) is located 8 km northwest of the COI; it is picturesquely situated on the Isfairan River and with a population of over 11,000 is the largest village in the province. Isfairan River provides water to the nearby villages for irrigation purposes. The village of Chauvay is located 1.5 km southeast of the COI. It has a good network of access roads and one of the highways passes through the COI.
AS-028	Aulye is located 1.3 km north of the COI. There are three major land uses: undisturbed, cultivated and community infrastructure. A major watercourse intersects the town of Aulye and the proposed route.
AS-029	Proposed route intersects substantial areas of agricultural lands and associated community infrastructure. The COI passes through the village of Abshir Say and the Abshir Say River in Osh province. Cultivated land is the major land use type.
AS-030	Proposed T/L route crosses the South-Kyrgyz (Osh) highway neat Bel, a village in the Nookat district of Kyrgyzstan. There is a graveyard nearby. Community infrastructure is present on either side of the COI separated by South-Kyrgyz highway.
AS-031	Cultivated lands and associated community infrastructure are present in the vicinity of the COI. The city of Nookat is located 3 km southeast of the proposed T/L route. Nookat is one of the youngest cities of south-western Kyrgyzstan, well equipped with infrastructure services, business centers, public health and public institutions.
AS-032	Communities and watercourses are present. The COI traverses a vast portion of agricultural fields and a major river system. The town of Uchbay is located 1.2 km south of the COI in Osh province. The Osh road passes through the town of Uchbay and crosses the COI.
AS-033	Proposed T/L route passes through the Akbura Valley. Osh is located 4 km northwest of the Akbura valley. Osh is the second largest city in Kyrgyzstan, often referred to as the "capital of the south"
AS-034	None
AS-035	None
AS-036	Proposed T/L route traverses highway M41 and the Karatay River, and the town of

	Karatay is located in the vicinity. There are small communities located adjacent to the watercourse.
AS-037	Proposed T/L route crosses the community of Kaynar; it traverses cultivated lands and associated community infrastructure in this area.
AS-038	The town of Leninskoye is located within the COI. Proposed T/L route traverses a large portion of cultivated lands and associated community infrastructure.
AS-039	Proposed T/L route enters the town of Uzgen which is on the northeast side of the COI. Uzgen is the capital of Uzgen district in Osh province. It is a medium sized city providing markets, services and agro processing industries for the surrounding agricultural areas. Proposed T/L route also traverses the Kar –Darya River and a large area of agricultural lands. Community housing is located in the flood plains of the river.
AS-040	Proposed T/L route crosses the cultivated lands and the Kara-Darya River again.
AS-041	COI passes through the town of Jalal-abad, the administrative and economic centre of Jalal-abad province, with a population of 150,000. Jalal-abad is situated at the northeastern end of the Fergana valley along the Kugart river valley. Agricultural land and community housing is located in the flood plains of Kugart River.
AS-042	Proposed T/L route traverses cultivated lands and associated community infrastructure in the flood plains of Kugart River valley.
AS-043	None

As seen from Table 1, the proposed transmission line route through the Kyrgyz Republic largely passes through areas of very sparse population. Across the 425 km route, it passes by less than two dozen towns/villages. The major long-term impact will be on some cultivated lands, while during the construction phase disruption could be caused to local communities, e.g. in carrying out farming activities, access to roads. But no major social impact appears likely in terms of resettlement of people or even large-scale land acquisition.

### 2.2.3 Social Impact Assessment

Impacts of the CASA 1000 Project on people and communities within the corridor of impact (COI) in the Kyrgyz Republic are expected to be minimal. The following general impacts may occur:

#### a) Land Acquisition

Permanent land acquisition will not be necessary for this project, as the land surrounding the T/L towers may continue to be used for agriculture purposes. An area of 2,500 m<sup>2</sup> will be required for a Contractor construction camp. Land may need to be acquired to relocate homes, but the exact number of homes that will be impacted cannot be determined until the centre line of the T/L is finalized.

Temporary acquisition of a land will be required for:

- Contractors' camps and facilities, i.e. storage, workshop, equipment parking and washing areas;
- Access roads for haulage, etc. utilizing land temporarily may affect its future productivity;
- Land for construction campsites will be temporarily acquired. The impact of temporary land acquisition is not expected to be significant with implementation of the proposed Environmental and Social Management Plan (ESMP) and Land Acquisition Resettlement Framework (LARF) mitigation measures (see Annexes).

**b) Public Infrastructure**

The construction stage of the proposed project may affect existing infrastructure within the eventual T/L right of way (RoW). The potential impacts on existing infrastructure are as follows:

- Road Crossings: during line stringing there may be some short term local interference with traffic movement. However, if good construction and traffic control procedures are followed, there will be no significant impact on existing roads or traffic during the construction phase of the project; and
- Power Lines: the COI does not include the crossing of an existing T/L. Good construction practices and the mitigation measures outlined below will virtually eliminate the potential for any significant impact during construction. There will be no significant impact on existing power lines during the operation stage of the project.

While some public infrastructure, such as electricity poles, may have to be moved during the construction of the T/L, this will be an unusual and infrequent event. The final identification of what infrastructure will require to be moved can only be determined once the location of the centre line and the towers has been fixed during the final design phase employment.

**c) Crop and Tree Loss**

Damage may occur to crops during the construction stage of the project due to the construction of tower footings and stringing of conductors. However, the magnitude of losses will depend on the location of the centre line and the towers and the season during which the work is done.

**d) Health and Safety**

Construction workers may be exposed to minor nuisances from waste to serious health concerns. If mitigation measures and measures to ensure safety during construction are followed, significant impacts will not occur.

**e) Project Affected Persons**

Population density in the COI is low; therefore the degree of contact between the work force and locals will be low. The COI has no indigenous people living in it and all local residence will be avoided during alignment and location of the towers. Contact between the local communities and the work force should be relatively easily managed. The extent of contact and the precise significance of the potential impacts on local communities and the work force during the construction period can only be determined once the location of the centre line and the towers, construction methods and work force are finalized.

**f) Livelihoods**

Local residents will have the opportunity to work for the Contractor and local goods and services will be used when possible, therefore the effects on employment and local livelihoods are expected to be positive.

## **2.3 SOCIAL MANAGEMENT PLAN**

### **2.3.1 Project Implementation Mitigation Measures**

As noted above, the social impact of the project itself is not expected to be significant: permanent land acquisition will not be needed or only to a very small extent, there will be some temporary land acquisition, there could be some temporary disruption of infrastructure (e.g. roads, power lines) during construction, some crops may be damaged during construction. The overall social impact is thus likely to be small and largely temporary. The following mitigation measures can be taken in relation to these:

#### **a) Design Stage**

- The alignment of the transmission line can easily be selected in such a way that settlements in the vicinity of the proposed COI within the Kyrgyz Republic will not be affected;
- Privacy is an important matter for project affected people and the activities and customs of local people must be taken into account when selecting the final route alignment;
- The project can easily be routed so as to affect the minimum number of trees, which are relatively important to livelihoods in the area;
- The transmission line can easily be routed to avoid schools and settlements;
- Efforts should be made to avoid shifting people/structures and to maximize the distance of the T/L from existing permanent structures.

#### **b) Pre-Construction Stage**

- Compensation should be made prior to occupation of the land by the Construction Contractor;
- In the event structures need to be moved or demolished, compensation should be negotiated and provided prior to project implementation;
- The same protocols should apply to crops and productive land.

#### **c) Construction Stage**

- To avoid conflicts/disputes with local people, the project staff and contractors and their activities should be confined within clearly demarcated construction areas;
- The Contractor should dispose of materials only within designated areas;
- A worker code of conduct should be established and enforced;
- Noise and dust emissions during the project execution should be controlled;
- The Contractor should respect and follow local norms and traditions;
- The Contractor should respect local women and their privacy.

### **2.3.2 Importance of Broad Social Management Plan**

The above mitigation measures address the direct impact of the project on local communities, i.e. the social impact as a result of design and construction of the project. However, the social management plan for the project needs to take a much broader approach. This is important for the following reasons:

Firstly, local communities will not be able to derive power supply directly from the transmission line, even though it passes by them, because it will be a high voltage line. As

noted already, lack of reliable electricity supply – particularly in winter months – is a major problem in the region. Inability to access power from the line could lead to local frustration.

Secondly, no matter how minimal, all the negative effects of the project will be experienced by communities along the T/L route. The benefits, by contrast, will go to people much further away (in Afghanistan and Pakistan) who will not suffer any disruption or inconvenience because of the line. This leads to an equity issue between those immediately affected who will not benefit directly from the line (and could suffer some disruption), and the larger society that will benefit. Unless efforts are made to address this inequity – as well as local frustration at not being able to access power from the line - this could affect the project's implementation and operation in the long run. Thirdly, it is important to create local ownership of the project to mitigate any potential risk of it being targeted by parties with ulterior motives.

For all these reasons community support programs need to be prioritized. It is important to make local communities 'stakeholders' in the project, so that they too have an interest in ensuring its success.

### **2.3.3 Perceptions of Communities in Areas along the transmission line corridor**

The community survey carried out consultations (focus group discussions) with local communities in the three affected provinces of the Kyrgyz Republic. The focus group discussions included both male and female members. The consultations revealed that most of the local population was not aware of the CASA-1000 project. However, after being given some basic information about the project, local community members articulated their concerns and expectations from the project.

By far the biggest problem facing them, identified by communities themselves, was insecure electricity supply in the winter season: people said they wanted reliable and uninterrupted electricity supply. Another major problem was lack of access to potable and irrigated water systems: they asked for construction and rehabilitation of irrigative water supply systems. Other demands they articulated were for rehabilitation and renovation of roads within villages, improved business opportunities and improved access to services including health care and education. Finally, they stressed the need for the project to use local workers.

Community members were asked about their willingness to contribute to bring about improved local services. All expressed willingness for this, albeit contributing in the form of labour or in kind rather than financially. They referred to the traditional concept of *hasher* or *ashar* whereby the joint efforts of the entire village population are used to restore, construct or carry out other activities.

### **2.3.4 Options for Community Support Programs**

The community support programs will aim to create local ownership of the CASA-1000 project, thereby reducing risks during construction and future operation of the project. It entails communities sharing in the benefits generated by the project. As noted above, it will be difficult to provide power directly from the transmission line to local communities because it will be a high voltage line. However, the project can carry out development activities which can benefit local people. Based on consultations with local people in affected areas, the following have been identified as priority needs:

- Improvement of electricity supply, especially in winter months;
- Poverty reduction measures through employment;

- Improvement in potable and irrigative water supply systems;
- Improved access to and quality of basic services (notably health and education).

Going beyond energy supply to address the other concerns/needs of local communities is also important because of the strong nexus between energy, food and water in under-development. Fixing just energy will still leave major problems with food and water supply, and access to basic services, all of which hamper development. Hence the necessity of taking a holistic approach and addressing all key development needs.

The community surveys identified a number of options to address each of the needs listed above. These are summarised below (full details are given in the community benefit survey report).

**a) Sustainable Power Supply Development Interventions**

One option to ensure reliable power supply to local communities could be provision of fuel-driven (diesel) generators. The dispersed nature of settlements in affected regions could make these a better option than trying to bring all those settlement onto the grid system. However, when investment cost, high running costs and difficulty of maintenance are all factored in, generators are not a feasible option.

Solar power through installation of roof mounted solar power systems (based on photovoltaic panels) could be a sustainable off-grid electricity supply option. In contrast to the rising fuel costs associated with generators, the cost of solar power systems is falling rapidly as the technology is being taken up wider and improved- but costs could be prohibitive for installation in all effected households. An alternative could be to only provide this to the most vulnerable households or only in select villages: both these would not lead to the desired local ownership of the CASA-1000 project. A more financially feasible option would be to provide solar power systems to key community institutions, such as schools and rural health facilities, which would (directly or indirectly) benefit entire communities and thereby foster local ownership of the project.

A related intervention could be provision of solar thermal systems, which make use of solar energy for hot water and heating systems. The equipment required for these (e.g. solar collectors, pipes, storage tanks) can be considerable, and they also need expertise for proper installment. As with solar power, a feasible option could be to provide solar hot water/heating systems only for public facilities such as schools and health clinics. Additional benefits are the creation of local jobs and use of local goods and services, thereby generating income for local communities.

Power generation through wind, geothermal and biomass resources have potential, but are not feasible options for the Kyrgyz Republic given the current conditions and state of technology. The most feasible and suitable 'alternative energy' option is to set up power supply systems based on micro-hydroelectric schemes in mountainous rural regions. However, even with this there are constraints: river flows are highly dependent on the season, being minimal in winter – when power requirements are maximal. Further study is required to identify the best approach to use micro-hydroelectric schemes to generate power in affected regions.

**b) Poverty Reduction Measures**

As noted in the socioeconomic profile of affected regions, development is weak, poverty levels are high and sources of livelihood very limited – forcing many people to migrate to the Russian Federation in search of work. Women are particularly disadvantaged because they

often lack education and skills which could lead to good income opportunities, and because livelihood opportunities for women are limited anyway.

Suggested interventions to address these issues include setting up women's vocational training centres; these would provide not just training in, for example, accounting/book-keeping, sewing, computer skills, small business management, but also support trainees to find employment. In addition, they would give basic production assets to the poorest women to enable them to generate their own income. The centres would also seek to raise general awareness of women's rights.

A similar initiative is proposed for (potential) labour migrants. Vocational training centres for these would offer courses, e.g. bricklaying, plastering, painting, woodwork, plumbing. Such trainings would help labour migrants secure better paid employment. The centres would also guide them on legislation related to labour migration and labour migrants' rights, e.g. to receive healthcare and other social benefits.

A third option, based on the largely agrarian societies in affected areas, is to develop the agrofood industry, e.g. through establishment of meat processing mini-plants and shops, vegetable processing mini-plants and shops, and milk processing units and shops. Such initiatives would enable local producers to maximise revenue from agricultural products such as meat, vegetables, cotton and milk, and also create local jobs and stimulate local economies.

#### **c) Water Supply Infrastructure Projects**

Lack of safe drinking water has been identified as a major health problem in affected regions, while lack of irrigated water systems hampers farming. The lack of drinking water could be addressed through community-based tubewell programs. Similar schemes have been successfully implemented by NGOs to provide potable water to rural populations in Tajikistan. For agriculture (cotton production and livestock rearing) water supply systems could be rehabilitated or improved.

#### **d) Reliable Access to Basic Social Services**

Access to and quality of basic services, notably health care and education, is generally poor in affected areas. One option to improve conditions, proposed above, would be to provide solar power systems and solar hot water/heating systems for public facilities. Another, relatively straightforward and low cost intervention which could yield significant improvement is insulating rural clinics and schools. Insulation projects have already been successfully undertaken by NGOs (UNISON in the Kyrgyz Republic). Other activities could be to improve the overall management and delivery of health and education services, e.g. overhauling the system of teacher training to promote use of child-friendly, innovative approaches; matching vocational training provision to market needs.

### **2.3.5 Institutional Arrangements for Community Support Programs**

It should be stressed that the intervention outlined above are **indicative – they have not been finalized**. This will only happen once the transmission line route is decided and further consultations are held with local communities and others about community benefit sharing options.

At the same time it will be important to establish an effective institutional arrangement for implementation of potential community support schemes. This should include/feature the following:

- A clear legal mandate/framework to underpin community support arrangements;
- Uniform national benefit transfer channels or institutional arrangements to reduce transaction costs and promote efficiency;
- A process of consultation with all stakeholders to design a suitable institutional arrangement;
- An effective mechanism to safeguard against mismanagement of funds or misappropriation;
- Support for local governments to ensure they have sufficient planning and implementation capacity;
- A third party monitoring arrangement to promote transparency and good governance;
- Effective use of partnerships with CSOs, NGOs and others in relation to capacity building, drawing on local knowledge and networks, and communication – all of which can be important in ensuring the success of community support mechanisms;
- Alignment of community support mechanisms with national strategies, in particular poverty reduction strategies – this can both help garner political support, and facilitate scale-up of interventions.

Potential institutional arrangements have been identified- two points to stress are: one, the need to ensure that local communities participate both in decision-making and implementation, through their representatives and directly through community members themselves; and two, the importance of public disclosure of information about the project and specifically about community support activities.

### **3. TAJIKISTAN**

#### **3.1 SOCIO-ECONOMIC PROFILE**

##### **3.1.1 Country Context**

Tajikistan is bordered by the Kyrgyz Republic to the north, Uzbekistan to the west, Afghanistan to the south, and China to the east; it is separated from Pakistan's Khyber Pakhtunkhwa province and Gilgit-Baltistan by the narrow Wakhan corridor. The country is landlocked, largely mountainous, and the smallest as well as the poorest country in Central Asia. The 7.3 million population is mostly ethnic Tajiks. Following independence from the Soviet Union in 1991, it suffered a devastating civil war for five years. Political stability since then and external assistance have contributed to improved economic growth.

##### **a) Political System**

Tajikistan is officially a republic with a president (who appoints the prime minister and council of ministers) and a bicameral legislature (upper National Assembly and lower Assembly of Representatives). Administratively it is divided into provinces: Sughd, Khatlon, RRP (formerly Karotegin), the autonomous province of Gorno-Badakhshan, and the capital territory of Dushanbe. Each province is further divided into districts (*raion*) which in turn are sub-divided into self-governing units (*jamoats*) and then villages. As of 2006, there were 58 districts and 367 *jamoats* in Tajikistan.

Tajikistan gained independence in 1991 following the break-up of the Soviet Union. Almost immediately it was plunged into civil war with various factions, allegedly backed by Russia and Iran, fighting one another. Out of the country's 400,000 ethnic Russians, all but 25,000

left; an estimated 100,000 people were killed in the fighting, and 1.2 million people were displaced from their homes. A ceasefire was reached in 1995 and peaceful elections held in 1997. Though officially a democracy, in practice Tajikistan is dominated by one party, the People's Democratic Party of Tajikistan headed by President Emomalii Rahmon; he has held the office of President continuously since November 1994. In recent years, a number of attacks by extremist groups have raised concerns about the rise of Islamic militancy in the east of the country.

## **b) Economy**

Tajikistan is currently the poorest country in Central Asia (of the former Soviet republics); it has one of lowest per capita GDP figures in the region. Most Central Asian states experienced economic difficulties due to the break-up of the Soviet Union and the transition phase, but these were greatly exacerbated in the case of Tajikistan by the five-year civil war that followed independence. With political stability came improved growth: annual GDP growth from 2000 to 2008 averaged 9 percent, driven principally by cotton and aluminum exports as well as remittances from Tajik migrant workers.

However, since then, Tajikistan's macro-economic short and medium-term economic outlooks have deteriorated and remain very fragile, with slowing GDP growth, high inflation levels, and growing energy and water insecurities. Tajikistan also strongly felt the impact of the 2008 global financial crisis through reductions in export revenues, decrease in remittance inflows, and decreased foreign capital infusions. Other factors hampering economic growth include the lack of access to seaports, the largely mountainous territory, uneven implementation of structural reforms, weak governance, corruption and a high external debt burden. GDP growth in 2010 was 6.5 percent.

Agriculture is one of the largest sectors of the economy, since almost three-quarters of the population live in rural areas. However, less than 7 percent of the land area is arable. Cotton is the most important crop, and its production is closely monitored, and in many cases controlled, by the government. The National Bank of Tajikistan's admission in December 2007 that it had improperly lent money to investors in the cotton sector, led the IMF to cancel its program in Tajikistan. A reform agenda is underway, according to which over half a billion dollars in farmer debt has been forgiven, and IMF assistance has been reinstated.

Overall, agricultural productivity remains poor due to the scarcity of land, lack of infrastructure (including irrigation systems), and low efficiency of state run seed-growing and livestock breeding farms. As a consequence Tajikistan cannot produce all the food that it needs, and is heavily reliant on food imports. A related consequence is that some population groups, especially the vulnerable, lack adequate dietary intake. In 2011 food and fuel prices increased to the highest levels seen since 2002 due in part to an increase in rail transport tariffs through Uzbekistan. Tajikistan imports approximately 60 percent of its food and 90 percent of that comes by rail. Uzbekistan closed one of the rail lines into Tajikistan in late 2011, hampering the transit of goods to and from the southern part of the country.<sup>12</sup>

Tajikistan's industrial sector is very weak for similar reasons. Industry consists mainly of a large aluminum plant, hydropower facilities and small obsolete factories mostly in light industry and food processing. The country's mineral resources include silver, gold, uranium and tungsten. As with the Kyrgyz Republic (indeed even more so), Tajikistan's economy is heavily dependent on remittances from workers abroad. Because of a lack of employment

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<sup>12</sup> <https://www.cia.gov/library/publications/the-world-factbook/geos/kg.html>

opportunities in Tajikistan, more than one million Tajik citizens work abroad, almost all of them in Russia. Remittances in 2011 amounted to US\$ 2.96 billion, equivalent to 45 percent of GDP. Labour migration is mostly seasonal and recurrent since domestic ties are strong in Tajikistan, but in recent years the duration of stay abroad has been increasing.

Tajikistan is facing an increasing energy crisis, particularly in winter months. An estimated more than 1 million people, primarily in rural areas, have little or no access to an adequate energy supply. In winter months, as a result of Tajikistan's dependence on unreliable electricity imports, rural areas only have access to between 4 and 8 hours of electricity a day. The unreliable electricity supply constrains income-generating activities and has severe environmental consequences (e.g. forest destruction, soil degradation, water access, and food insecurity), as many rural populations burn conventional biomass and fossil fuels to meet their energy needs. Tajikistan has coal and gas reserves, and considerable potential to expand hydroelectric power generation – but realizing this requires investment which the country lacks. Further issues with the energy sector are low tariffs and outdated technology.

#### **e) Population Demographics and Development Indicators**

The total population of Tajikistan is over 7.3 million. The majority (estimated 80 percent) are ethnic Tajiks; Uzbeks form around 15 percent of the population. Ethnic Russians made up almost 8 percent of the population in 1989, but following independence and civil war most fled the country, and the current Russian share in the population is just 1 percent. The majority of people follow Sunni Islam, though there is a sizeable minority of Ismailis. Tajikistan has a young population: one-third is under the age of 15 years, and one half under the age of 24 years.

Poverty rates in Tajikistan are high, though they have fallen significantly over the past decade. Despite its poverty, Tajikistan has a very high rate of literacy (99.5 percent) due to the old Soviet system of free education. While 64 percent of the population has access to an improved drinking water source, there are big rural-urban differences: 92 percent of people in urban areas have access to improved drinking water, compared to just 54 percent in rural areas.<sup>13</sup> Access to improved sanitation facilities is good in both urban and rural areas. Tajikistan's healthcare system in the post-Soviet period has been severely affected by civil war, economic collapse, and a dramatic decline in health financing. Tajikistan's health sector budget is only 1.2 percent of GDP, which covers only 16 percent of total health sector expenditure. Overall Tajikistan ranks 125<sup>th</sup> out of 186 countries in the 2012 Human Development Index.

#### **d) Situation of Women<sup>14</sup>**

Historically in Central Asia women are generally subordinate to men and have less access to education, economic resources and political power. In this regard Tajikistan is typical of the region. Economic activity among women remains lower than men, primarily as a result of socio-demographic factors. Women experience unequal access and control over resources (e.g. property, land, credit) and a much higher proportion of women work in lower skill occupations, as compared to men. For example, only 1 percent of privatized land owners are women even though they make up approximately 70 percent of the agricultural workforce. In

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<sup>13</sup> Ibid.

<sup>14</sup> The main source for this information was <http://www.untj.org/country-context/situation-analysis>.

terms of rural entrepreneurship, women do not have equitable access to support resources (e.g. vocational training, micro-credit, advisory services).

The political participation of women has considerably decreased since independence. In the 2005 parliamentary elections, only 11 women (18 percent of the total) were elected to the National Assembly, and only 12 percent to the lower Assembly of Representatives. The percentage of women representatives in local government is even lower: 4 percent, 7 percent, and 11 percent at the *oblast*, *raion* and municipal levels, respectively.

### **3.1.2 Affected Regions**

The CASA-1000 design includes a 452 km 500 kV HVAC line from the Kyrgyz Republic south to Tajikistan. Of this total, 25 km runs through Tajikistan to Khudjand. The grid will be strengthened between Regar and Sangtuda and a further 115 km HVDC line runs from Sangtuda to Afghanistan. The route traverses two provinces, Sughd and Khatlon. The socio-economic profile of the project affected areas is based on two surveys: a community benefit sharing survey, and a previous environmental and social impact assessment. The findings of the two surveys, detailed separately below, are largely consistent.

#### **Socio-Economic Profile based on Community Benefit Survey**

The assessment below is based on the findings of a study on community benefit sharing and support options in Tajikistan and the Kyrgyz Republic, conducted in 2012 by the Foundation to Support Civil Initiatives. In Tajikistan the study surveyed 5 settlements in Sughd *oblast* and 8 in Khatlon *oblast*. The total number of households in these settlements was 5,363 with 10,873 families and a total of 35,089 people. Figures for the total population of the affected areas in Tajikistan are not available.

##### **a) Population**

In the 13 settlements/communities surveyed in the two *oblasts*, the total population was 35,089 people. In villages visited in Sughd province, the population was mostly Uzbek (96.7 percent) with very few Tajiks (2 percent) and other ethnic groups. In Khatlon Tajiks formed a small majority (60.9 percent) with the remainder (39.1 percent) Uzbeks. The proportion of men and women was 49:51 – the slight difference can be attributed to the greater number of male workers going abroad. Family sizes were generally large among the surveyed population: 30.3 percent had 5-6 members, 27.3 percent had 6-7 members, while 29.5 percent had 8 or more members. Some households comprised two or three families.

Education levels among those surveyed were quite high: 48 percent had completed general secondary education and 23.2 percent higher education. Disaggregated by gender, a greater proportion of women had completed general secondary education (76.1 percent compared to 64 percent men) but a smaller proportion of women had completed higher education (6.8 percent compared to 14.0 percent men).<sup>15</sup>

##### **b) Land Use and Access to Services**

The surveyed villages were located at varying distances from district or provincial administrative centres, but all had access to permanent roads to the respective centres. No

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<sup>15</sup> Table 6, *Community Benefit Sharing Study*, *op. cit.*

figures were given for average land ownership per household since in Tajikistan all land is still state-owned.

Under Soviet rule, all services were provided by the state – school facilities, health centres, even barber shops, sports and recreational facilities. However, following the collapse of the Soviet Union, service provision shifted from the state to a market system, in which the state's role is largely confined to providing support for the most vulnerable groups to access basic services. While the situation with regard to access to services in project affected areas prior to independence (i.e. under the Soviet Union) is not known, the 2012 community benefit survey found access to services to be quite poor.

Of the communities surveyed in Tajikistan, all 5 in Sughd province reported limited/no access to potable and irrigative waters, and insecure electricity supply especially in winter. In Khatlon province 6 out of 8 communities reported limited/no access to potable and irrigative waters, while all reported insecure electricity supply especially in winter. In Sughd, 2 out of 5 communities reported no access to basic medical services, and 4 out of 8 communities in Khatlon. One community in Sughd and 2 in Khatlon reported that access roads were in need of repair, and 2 communities in Khatlon reported that the school needed repair.

The community benefit survey found that some rural schools were built through collective community action (*hasher*). Clay was usually used for this, being the most readily available material. It noted that in such schools there was usually no proper floor or ceiling, and rest rooms were in very poor condition; many girls had to go home during breaks. Most rural schools did not have running water; students brought drinking water from home or used water from unsafe sources such as irrigation channels. In rural schools there was practically no gymnastics or sports equipment for physical education lessons: these were conducted outdoors, even in rain and snow, resulting in many children falling ill. The shortage of electricity commonly seen in winter months, led schools to rely on wood, coal or dried manure for heating; this in turn caused children to suffer ill health (headaches, respiratory diseases) caused by indoor smoke.

Average monthly household spending on drinking water among surveyed communities in Tajikistan was US\$ 38. Many residents in rural areas use water from irrigation channels and rivers, which can cause high rates of infectious diseases. Each year, in particular during the summer months, water borne epidemics hit different regions of the country, causing many people to become ill and even some deaths. More than 50 percent of hospital patients were found to be suffering from gastrointestinal disorders normally caused by water-borne pathogens.

For sanitation, the survey found that the most common type of toilet used was a cesspit or pit (hole) with a deck covering; as soon as the pit is full it is covered and a new pit is dug. Such toilets are usually found located at the outskirts of a household compound. In the surveyed villages there was no centralized system for garbage collection; the most common method was to dig a hole for rubbish, and bury the garbage in it. In the communities surveyed, 62.2 percent of households reported that they had a special pit for garbage in their yards, 10 percent said they burnt their rubbish, and 16 percent said their village had a public municipal pit into which they emptied rubbish. Finally, of the communities surveyed in Tajikistan, 66.3 percent had a mosque and 53 percent a teahouse.<sup>16</sup>

**c) Access to Power**

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<sup>16</sup> Table 15, *ibid*.

Under the centrally planned Soviet system, energy resources were shared within the Central Asian region: excess production of hydropower by what are now the Kyrgyz Republic and Tajikistan would be used to meet the summer energy needs of neighbouring regions (Kazakhstan and Uzbekistan), while their production of electricity using gas and fuel oil would be used to meet winter needs in the Kyrgyz Republic and Tajikistan. The collapse of this system of sharing has led to severe power shortages in the Kyrgyz Republic and Tajikistan in winter months when hydropower generation is low.

The survey found that just over one-third of those surveyed (35 percent) described the power supply situation as partly good, but 49.3 percent called it partly bad and 10.3 percent very bad. In winter months, people reported using alternative energy sources notably coal, firewood, kerosene and diesel fuel. Electric power was being used virtually entirely for domestic purposes – lighting, domestic needs, cooking – with only 0.5 percent reporting using it for work. In Tajikistan only 13.3 percent of households reported using electric power for heating, reflecting use of alternative energy sources such as firewood, kerosene and diesel fuel for this purpose.

#### **d) Sources of Livelihood**

The surveyed communities were largely engaged in agriculture: cattle breeding, cotton cultivation on arable land, and kitchen gardening (growing tomatoes, cucumbers, onion, potatoes, wheat, etc.). However, unlike in the Kyrgyz Republic where communities sold a share of their produce for income, in Tajikistan they largely consumed everything they produced. Lack of cultivable and even pasture land is a major constraint on crop and cattle farming in Tajikistan: over 90 percent of the country is mountainous. As a result most respondents reported keeping livestock (goats) and poultry (chickens, turkeys). Along with fruit trees, many households were engaged in cultivation of trees, whose timber was used for construction of houses.

A further major source of income was remittances from Tajik migrant workers. Levels of migration in the five communities surveyed in Sughd province ranged from 3 percent to 13 percent; in Katlon was between 4 and 10 percent. However, unemployment rates in all communities were high: 60 percent in one Sughd community, and between 23 and 50 percent in Khatlon. Most migrants were working in the Russian Federation. About 90 percent of migrant workers were men, but an increasing number of women were also going abroad for work. Much of the labour migration was seasonal and recurrent, since domestic ties are strong. But over the last few years there has been an increase in the duration of migration, with some workers going for a few years at a time.

The three main sources of household revenue among the surveyed communities were remittances (average US\$ 369 per month), entrepreneurship (US\$ 247/month) and farming (US\$ 180/month).<sup>17</sup> Salaries, hired labour and pensions/benefit accounted for an average US\$ 90, US\$ 90 and US\$ 39 respectively per month.

Spending on food accounted for US\$ 155 of average monthly household expenditure – the biggest item. The other main reported expenses were on agrarian equipment (US\$ 125), clothes (US\$ 53), house repairs (US\$ 40) and water (US\$ 38).

#### **e) Situation of Women**

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<sup>17</sup> Table 19, *ibid.*

The community benefit survey gives very limited data on women. It reported that a slight majority of those surveyed were female (51 percent), and that their access to basic services such as education was less than that of men. Moreover, women generally work harder and longer hours, taking care of household chores, farming and children. Their position within society was perceived to be less than that of men. Single mother households (those with a female head due to divorce/husband's death) faced particular stress due to economic hardship (see below). However, it reported that 40.8 percent of women were employed as teachers, while 35.9 percent were housewives, and 9.7 percent pensioners; unemployment among women was reported to be zero.<sup>18</sup>

#### f) Vulnerable Groups

The community benefit survey identified the following main types of vulnerable groups among surveyed communities: households with more than 5 children; households with one head of family, in particular female headed households; rural families not involved in agricultural production; old people and those with disabilities not living with families; families involved mostly in cattle herding; members of *dehkan* and/or collective farms which produce cotton; and households with more than one family. However, of these the survey findings only allow estimates of the first category, households with more than 5 children – approximately 30 percent of those surveyed. Figures for the other categories are not given, though a reported 89 percent of households have members who are dependents, disabled or sick.<sup>19</sup>

i) Households with more than 5 children – The community benefit survey found that in economic terms large families were in the most difficult situation because the mother was usually not working and the father could not meet all the family's needs. It also found that in large households the level of economic activity was much lower and unemployment twice as high as in other households. The vulnerability of large families in the labour market can be attributed to their relatively low educational level and lack of professional skills. This is reflected in the fact that a high proportion of workers from such families were employed as unskilled workers with the lowest earnings. Such families would benefit greatly from self-employment opportunities, notably in agriculture.

ii) Households with one head of household, particularly female headed households - Economic crisis and high levels of migration have had a dramatic impact on the marital status of families. Families with only one male head of household were very rare, due to the fact that men often marry again. Families with one female head of household were more common, as a consequence of the civil war, because of divorce/death of the husband and because of migration (husbands working abroad). The latter could not really be considered vulnerable because they received remittances from male family members working abroad. The former, however, were found to be very vulnerable. High female unemployment and limited access for women to basic institutions that could lead to opportunities (education, training, skills development), combined with responsibility for bringing up children, placed great stress on women. [It should be noted that girls in rural areas are less likely to be sent to school than boys, and they rarely get a high school education.] Such 'single mother' families adopted survival strategies such as using home gardens to generate income and getting outside assistance. The study found a tendency among women heading needy families to limit expenses and for women specifically to 'go without' (e.g. food, clothes, socialising) and

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<sup>18</sup> Table 10, *ibid.*

<sup>19</sup> Table 9, *ibid.*

make sacrifices for their children. The study also found that sole breadwinner women were only rarely assisted by relatives and friends. They did, however, receive some state support, e.g. cash and housing subsidies, certain benefits and allowances.

*iii) Families not involved in agriculture* – The study found such families to be vulnerable because of low salary rates, poor job quality and widespread underemployment.

*iv) Elderly and disabled* – The community benefit study found that elderly and disabled people faced a number of problems: lack of professional services in rural areas, e.g. doctors, psychiatrists; limited sources of public and private support; very limited opportunities for employment, leading to economic dependency/hardship; lack of adequate health care and dietary intake.

*v) Families mostly engaged in cattle herding* – Such families were found to be vulnerable because they often lived far from settlements and thus had very limited access to basic services, e.g. health, education. This in turn could lead to further social exclusion, limited opportunities, and unemployment/underemployment. A related problem was low wage levels and poor living conditions.

*vi) Members of dehkan/collective farms producing cotton* – These people were found to be vulnerable because they completely depend on cotton cultivation for their income, and are thus at risk from fluctuations (drops) in cotton prices. In case of adverse pricing, some people became bankrupt, unemployed and/or even homeless.

*vii) Households with more than one family* - The study found that households with more than one family were usually those with several generations of an extended family living together, either for reasons of tradition or for economic reasons (inability to afford separate homes). Such people were identified as vulnerable because they often belonged to the poorest social group with the least education, and their way of life was ‘outdated’ and patriarchal. They also suffered from shortage of land, water and other resources.

### **Socio-Economic Profile based on IEL Social Impact Assessment**

As part of an environmental and social impact assessment conducted by Integrated Environments Ltd, a detailed social field survey was conducted within the 25 km x 2 km wide COI between the Kyrgyz Republic-Tajikistan border and Khoudjand during the months of October and December 2008. Baseline information for the 115 km 500 kV HCDC line was collected in the field during November 2007 and March 2008. The findings of the IEL assessment with regard to the socio-economic profile of the CASA-1000 project affected areas are as follows:

#### **a) 25 km HVAC Transmission Line Route**

Adults of both sexes have almost 100 percent literacy as a legacy of the Soviet period. The major economic activities are farming, and small trading especially where microfinance programs are available. The major sources of drinking water in the COI are the rivers Aksuu and Karasu, and irrigation channels. Consequently, most villages lack safe drinking water.

Land is all state-owned. Agriculture is the main economic activity in the region. The main products are cotton, cereals, oilseed, potatoes, carrots, onions, cucumbers, cabbage, melons, vines, milk, wool, honey and eggs. Cotton is a profitable cash crop but it is also controversial as it involves high inputs of water and chemicals and local farmers receive little profit. The rolling hills support flocks of sheep, goats and cattle.

## **b) 115 km HVDC Transmission Line Route**

The population of the Khatlon region is about 2,500,000 (January, 2008), with an average population density of 99.3 people per km<sup>2</sup>. All land within Tajikistan is state-owned. Household size ranges from 1 to 3 families, with average family size being 6.2 people. Males comprise 47.5 percent of the population and females comprise 52.5 percent. In rural populations, the literacy rate is 90 percent and young females are 75-80 percent literate. Women are involved in various agricultural and household jobs and often have to fetch water from afar. Only 30 to 46 percent of the population in the COI report having easy access to potable water. Load shedding occurs for 2 to 4 hours daily. The main economic activity is agriculture; however, irrigation infrastructure downfall has led to damage to canals and loss of cultivated land. The Tajik government has taken steps to modernize and develop agricultural activities with the help of international financial organizations and foreign countries.

## **3.2 PROJECT IMPACT**

### **3.2.1 Methodology**

As noted above, the CASA-1000 design in Tajikistan includes a 25 km 500 kV HVAC line from the Kyrgyz Republic border to Khudjand, the strengthening of the Tajik grid between Regar and Sangtuda, and a further 115 km HVDC line from Sangtuda to Afghanistan. The route traverses two provinces, Sughd and Khatlon.

Power will be transferred from Datka to Khudjand (capital city of Sughd province) on a dedicated line, and then via the internal Barki Tojik (a state owned enterprise) network to Sangtuda. The 115 km HVDC transmission line from Sangtuda through Tajikistan to Afghanistan generally traverses areas of low population density, well to the east of all the major population centres in the area (Kurgan-Tyube, Vakhsh, Kolkhozabad, Dusti).

The social impact assessment of the CASA-1000 project on affected areas in Tajikistan is largely based on the *ESIA and ESMP of the Central Asia South Asia Electricity Transmission Project (CASA 1000): Feasibility Stage* prepared by IEL. The IEL ESIA entailed the preparation of environmental and social alignment sheets, using new satellite imagery to document specific environmental and social concerns and proposed mitigation measures along the entire CASA-1000 transmission line route. In addition detailed field surveys were conducted in project affected regions between November 2007 and December 2008.

### **3.2.2 Social Impact Based on Field Survey**

#### **a) 25 km HVAC Transmission Line Route**

Land in the COI is state property. More than 70 percent of the corridor is unproductive and used only as seasonal pasture. There are a small number of agricultural lands (orchard and cotton fields) which will be directly under CASA 1000 T/L. These lands comprise about 15 percent of the corridor. The main crops grown are cotton, grains, vegetables, fruits and mulberry. The latter are especially important. Seven villages/towns/settlements are located in the vicinity of the COI. Only two are relatively close and can be avoided during the final route selection and tower placement.

#### **b) 115 km HVDC Transmission Line Route**

The COI covers 5 districts (*raions*) of Khatlon Region (oblast) in Southern Tajikistan. There are 12 villages/settlements in the vicinity but, only two are within the COI. Other than proximity to roads, houses or villages, no social, economic or cultural constraints were identified in these *raions*. There are no indigenous people or historical, cultural or archaeological heritage objects identified in the COI. As well, there are no public infrastructure/utilities located within the COI.

### 3.2.3 Social Features Based on Alignment Sheets

The tables below details the social features gathered from alignment sheets for the length of the proposed transmission line route through Tajikistan.

**Table 2: Social Features along CASA-1000 route in Tajikistan as gauged from environmental and social alignment sheets**

Alignment Sheet	Description of Social Features
<b>25 km HVAC Line</b>	
AS-001	Proposed T/L line crosses Syr Darya River, and passes through mountainous areas and agricultural fields
AS-002	None
AS-003	None
<b>115 km HVDC Line</b>	
AS-44	There are five major land use types in the region. These include road, pasture, cultivated lands, undisturbed lands and community infrastructure. The proposed T/L route crosses a major railway.
AS-45	The T/L route passes traverses winter pasture and seasonal streams. There is scattered vegetation along the proposed T/L route and small pockets of houses.
AS-46	The land use type is pasture and undisturbed land. Scattered communities, vegetation and seasonal streams are present along the proposed T/L route
AS-47	The proposed T/L route traverses through pasture, seasonal streams and access roads.
AS-48	The route traverses the town of Vaksh. Vaksh is about 100 km from the capital, Dushanbe. The land use types include pasture, undisturbed land, community infrastructure, irrigation canals, road and cultivated lands. Two major watercourses flow adjacent to the town of Vaksh.
AS-49	None
AS-50	There are numerous seasonal streams and access roads along the proposed T/L route.
AS-51	The proposed T/L route enters the town Bolshevik and intersects cultivated lands, irrigation canals, watercourses, railroad, roads and undisturbed lands.
AS-52	The cities of Pervomaysk and Zamini Nav are located near where the route transects agriculture land, roads, railways and seasonal streams. The proposed T/L route traverses rangelands and cultivated lands. Most of the cultivated lands are concentrated near the Tajikistan-Afghanistan border.
AS-53	The Tigrovaya Balka Nature Reserve occurs approximately 13 km southeast of the COI near Tajikistan-Afghanistan border. The reserve is not expected to be affected by the CASA 1000 project. The proposed T/L route traverses through agricultural lands then crosses the Amu Darya River at the Tajikistan-Afghanistan border.

It is clear from Table 2 that the proposed transmission line route through Tajikistan largely passes through areas of very sparse population, and hence the potential social impact is extremely low.

### 3.2.4 Social Impact Assessment

Impacts of the CASA 1000 Project on people and communities within the COI in Tajikistan are expected to be minimal. The following general impacts may occur:

#### a) Land Acquisition

Permanent land acquisition will not be necessary for this project, as the land surrounding the T/L towers may continue to be used for agriculture purposes. An area of 2,500 m<sup>2</sup> will be required for a Contractor construction camp. Land may need to be acquired to relocate homes, but the exact number of homes that will be impacted cannot be determined until the centre line of the T/L is finalized.

The Tajik Republic has approved procedures for land allocation. Under the Law on Property, while all land belongs to the state, it is allocated for lifetime use by individuals to farmers. In case it is required for a development project, local authorities compensate the loss with comparable land within the limits of the same administrative territory.

Temporary acquisition of a land will be required for:

- Contractors' camps and facilities, i.e. storage, workshop, equipment parking and washing areas;
- Access roads for haulage, etc. utilizing land temporarily may affect its future productivity;
- Land for construction campsites will be temporarily acquired. The impact of temporary land acquisition is not expected to be significant with implementation of the proposed Environmental and Social Management Plan (ESMP) and Land Acquisition Resettlement Framework (LARF) mitigation measures (see Annexes).

#### b) Public Infrastructure

The construction stage of the proposed project may affect existing infrastructure within the eventual T/L RoW. The potential impacts on existing infrastructure are as follows:

- Road Crossings: during line stringing there may be some short term local interference with traffic movement. However, if good construction and traffic control procedures are followed, there will be no significant impact on existing roads or traffic during the construction phase of the project; and
- Power Lines: the COI does not include the crossing of an existing T/L. Good construction practices and the mitigation measures outlined below will virtually eliminate the potential for any significant impact during construction. There will be no significant impact on existing power lines during the operation stage of the project.

While some public infrastructure, such as electricity poles, may have to be moved during the construction of the T/L, this will be an unusual and infrequent event. The final identification of what infrastructure will require to be moved can only be determined once the location of the centre line and the towers has been fixed during the final design phase employment.

#### c) Crop and Tree Loss

Damage may occur to crops during the construction stage of the project due to the construction of tower footings and stringing of conductors. However, the magnitude of losses

will depend on the location of the centre line and the towers and the season during which the work is done.

**d) Health and Safety**

Construction workers may be exposed to minor nuisances from waste to serious health concerns. If mitigation measures and measures to ensure safety during construction are followed, significant impacts will not occur.

**e) Project Affected Persons**

Population density in the COI is low; therefore the degree of contact between the work force and locals will be low. The COI has no indigenous people living in it and all local residence will be avoided during alignment and location of the towers. Contact between the local communities and the work force should be relatively easily managed. The extent of contact and the precise significance of the potential impacts on local communities and the work force during the construction period can only be determined once the location of the centre line and the towers, construction methods and work force are finalized.

**f) Livelihoods**

Local residents will have the opportunity to work for the Contractor and local goods and services will be used when possible, therefore the effects on employment and local livelihoods are expected to be positive.

**3.3 SOCIAL MANAGEMENT PLAN**

**3.3.1 Project Implementation Mitigation Measures**

As noted above, the social impact of the project itself is not expected to be significant: permanent land acquisition will not be needed or only to a very small extent, there will be some temporary land acquisition, there could be some temporary disruption of infrastructure (e.g. roads, power lines) during construction, some crops may be damaged during construction. The overall social impact is thus likely to be small and largely temporary. The following mitigation measures can be taken in relation to these:

**a) Design Stage**

- The alignment of the transmission line can easily be selected in such a way that settlements in the vicinity of the proposed COI within Tajikistan will not be affected;
- Privacy is an important matter for project affected people and the activities and customs of local people must be taken into account when selecting the final route alignment;
- The project can easily be routed so as to affect the minimum number of trees, which are relatively important to livelihoods in the area;
- The transmission line can easily be routed to avoid schools and settlements;
- Efforts should be made to avoid shifting people/structures and to maximize the distance of the T/L from existing permanent structures.

**b) Pre-Construction Stage**

- Compensation should be made prior to occupation of the land by the Construction Contractor;

- In the event structures need to be moved or demolished, compensation should be negotiated and provided prior to project implementation;
- The same protocols should apply to crops and productive land.

**c) Construction Stage**

- To avoid conflicts/disputes with local people, the project staff and contractors and their activities should be confined within clearly demarcated construction areas;
- The Contractor should dispose of materials only within designated areas;
- A worker code of conduct should be established and enforced;
- Noise and dust emissions during the project execution should be controlled;
- The Contractor should respect and follow local norms and traditions;
- The Contractor should respect local women and their privacy.

**3.3.2 Importance of Broad Social Management Plan**

The above mitigation measures address the direct impact of the project on local communities, i.e. the social impact as a result of design and construction of the project. However, the social management plan for the project needs to take a much broader approach. This is important for the following reasons:

Firstly, local communities will not be able to derive power supply directly from the transmission line, even though it passes by them, because it will be a high voltage line. As noted already, lack of reliable electricity supply – particularly in winter months – is a major problem in the region. Inability to access power from the line could lead to local frustration.

Secondly, no matter how minimal, all the negative effects of the project will be experienced by communities along the T/L route. The benefits, by contrast, will go to people much further away (in Afghanistan and Pakistan) who will not suffer any disruption or inconvenience because of the line. This leads to an equity issue between those immediately affected who will not benefit directly from the line (and could suffer some disruption), and the larger society that will benefit. Unless efforts are made to address this inequity – as well as local frustration at not being able to access power from the line - this could affect the project’s implementation and operation in the long run. Thirdly, it is important to create local ownership of the project to mitigate any potential risk of it being targeted by parties with ulterior motives.

For all these reasons community support programs need to be prioritized. It is important to make local communities ‘stakeholders’ in the project, so that they too have an interest in ensuring its success.

**3.3.3 Perceptions of Communities in Affected Areas**

The community benefit sharing option survey carried out consultations (focused group discussions) with local communities in the two affected provinces of Tajikistan. The focus group discussions included both male and female members. The consultations revealed that most of the local population were not aware of the CASA-1000 project. However, after being given some basic information about the project, local community members articulated their concerns and expectations from the project.

By far the biggest problem facing them, identified by communities themselves, was insecure electricity supply in the winter season: people said they wanted reliable and uninterrupted electricity supply. Another major problem was lack of access to potable and irrigated water

systems: they asked for construction and rehabilitation of irrigative water supply systems. Other demands they articulated were for rehabilitation and renovation of roads within villages, improved business opportunities and improved access to services including health care and education. Finally, they stressed the need for the project to use local workers.

Community members were asked about their willingness to contribute to bring about improved local services. All expressed willingness for this, albeit contributing in the form of labour or in kind rather than financially. They referred to the traditional concept of *hasher* or *ashar* whereby the joint efforts of the entire village population are used to restore, construct or carry out other activities.

### **3.3.4 Options for Community Support Programs**

The community support programs will aim to creating local ownership of the CASA-1000 project, thereby reducing risks during construction and future operation of the project. It entails local communities sharing in the benefits generated by the project. As noted above, it will be difficult to provide power directly from the transmission line to local communities because it will be a high voltage line. However, the project can carry out development activities which can benefit local people. Based on consultations with local people in affected areas, the following have been identified as priority needs:

- Improvement of electricity supply, especially in winter months;
- Poverty reduction measures through employment;
- Improvement in potable and irrigative water supply systems;
- Improved access to and quality of basic services (notably health and education).

Going beyond energy supply to address the other concerns/needs of local communities is also important because of the strong nexus between energy, food and water in under-development. Fixing just energy will still leave major problems with food and water supply, and access to basic services, all of which hamper development. Hence the necessity of taking a holistic approach and addressing all key development needs.

The community surveys identified a number of options to address each of the needs listed above. These are summarised below.

#### **a) Sustainable Power Supply Development Interventions**

One option to ensure reliable power supply to local communities could be provision of fuel-driven (diesel) generators. The dispersed nature of settlements in affected regions could make these a better option than trying to bring all those settlement onto the grid system. However, when investment cost, high running costs and difficulty of maintenance are all factored in, generators are not a feasible option.

Solar power through installation of roof mounted solar power systems (based on photovoltaic panels) could be a sustainable off-grid electricity supply option. In contrast to the rising fuel costs associated with generators, the cost of solar power systems is falling rapidly as the technology is being taken up wider and improved. Costs involved to provide all affected households in Tajikistan, however, are still significant: more financially feasible alternatives could be to only provide this to the most vulnerable households or only in select villages: both these would not lead to the desired local ownership of the CASA-1000 project. A third approach that could would be to provide solar power systems to key community institutions such as schools and rural health facilities. This approach would (directly or indirectly)

benefit entire communities and thereby foster local ownership of the project and at a more reasonable cost in comparison to the previous options.

A related intervention could be provision of solar thermal systems, which make use of solar energy for hot water and heating systems. The equipment required for these (e.g. solar collectors, pipes, storage tanks) can be considerable, and they also need expertise for proper installment. As with solar power, a feasible option could be to provide solar hot water/heating systems only for public facilities such as schools and health clinics. Additional benefits are the creation of local jobs and use of local goods and services, thereby generating income for local communities.

Power generation through wind, geothermal and biomass resources have potential, but are not feasible options for Tajikistan given the current conditions and state of technology. The most feasible and suitable 'alternative energy' option is to set up power supply systems based on micro-hydroelectric schemes in mountainous rural regions. However, even with this there are constraints: river flows are highly dependent on the season, being minimal in winter – when power requirements are maximal. Further study is required to identify the best approach to use micro-hydroelectric schemes to generate power in affected regions.

#### **b) Poverty Reduction Measures**

As noted in the socioeconomic profile of affected regions, development is weak, poverty levels are high and sources of livelihood very limited – forcing many people to migrate to the Russian Federation in search of work. Women are particularly disadvantaged because they often lack education and skills which could lead to good income opportunities, and because livelihood opportunities for women are limited anyway.

Interventions suggested to address these issues include setting up women's vocational training centres; these would provide not just training in, for example, accounting/book-keeping, sewing, computer skills, small business management, but also support trainees to find employment. In addition, they would give basic production assets to the poorest women to enable them to generate their own income. The centres would also seek to raise general awareness of women's rights.

A similar initiative is proposed for (potential) labour migrants. Vocational training centres for these would offer courses, e.g. bricklaying, plastering, painting, woodwork, plumbing. Such trainings would help labour migrants secure better paid employment. The centres would also guide them on legislation related to labour migration and labour migrants' rights, e.g. to receive healthcare and other social benefits.

A third proposal, based on the largely agrarian societies in affected areas, is to develop the agrofood industry, e.g. through establishment of meat processing mini-plants and shops, vegetable processing mini-plants and shops, and milk processing units and shops. Such initiatives would enable local producers to maximise revenue from agricultural products such as meat, vegetables, cotton and milk, and also create local jobs and stimulate local economies.

#### **c) Water Supply Infrastructure Projects**

Lack of safe drinking water has been identified as a major health problem in affected regions, while lack of irrigated water systems hampers farming. The lack of drinking water could be addressed through community-based tubewell programs. Similar schemes have been successfully implemented by NGOs to provide potable water to rural populations in

Tajikistan. For agriculture (cotton production and livestock rearing) water supply systems could be rehabilitated or improved.

**d) Reliable Access to Basic Social Services**

Access to and quality of basic services, notably health care and education, is generally poor in affected areas. One option to improve conditions, proposed above, would be to provide solar power systems and solar hot water/heating systems for public facilities. Another, relatively straightforward and low cost intervention which could yield significant improvement is insulating rural clinics and schools. Insulation projects have already been successfully undertaken by NGOs (Little Earth in Tajikistan). The community benefit sharing option survey report also makes several recommendations to improve the overall management and delivery of health and education services, e.g. overhauling the system of teacher training to promote use of child-friendly, innovative approaches; matching vocational training provision to market needs.

**3.3.5 Institutional Arrangements for Community Support Programs**

It should be stressed that the interventions proposals outlined above are **indicative** – they have not been finalized. This will only happen once the transmission line route is decided and further consultations are held with local communities and others about community benefit support program options.

At the same time it will be important to establish an effective institutional arrangement for implementation of community support proposals. This should include/feature the following:

- A clear legal mandate/framework to underpin community support arrangements;
- Uniform national benefit transfer channels or institutional arrangements to reduce transaction costs and promote efficiency;
- A process of consultation with all stakeholders to design a suitable institutional arrangement;
- An effective mechanism to safeguard against mismanagement of funds or misappropriation;
- Support for local governments to ensure they have sufficient planning and implementation capacity;
- A third party monitoring arrangement to promote transparency and good governance;
- Effective use of partnerships with CSOs, NGOs and others in relation to capacity building, drawing on local knowledge and networks, and communication – all of which can be important in ensuring the success of community support mechanisms;
- Alignment of community support mechanisms with national strategies, in particular poverty reduction strategies – this can both help garner political support, and facilitate scale-up of interventions.

Relevant institutional arrangements have been identified. Two points to stress are: one, the need to ensure that local communities participate both in decision-making and implementation, through their representatives and directly through community members themselves; and two, the importance of public disclosure of information about the project and specifically about community support activities.

## 4. AFGHANISTAN

### 4.1 SOCIO-ECONOMIC PROFILE

#### 4.1.1 Country Context

Afghanistan is a landlocked state falling within both Central Asia and South Asia (and to some extent Western Asia). It is bordered by Turkmenistan, Uzbekistan and Tajikistan in the north, Iran in the west, Pakistan in the south and east, and China in the far northeast. It has a population of approximately 30 million, but after decades of war is highly under-developed and one of the poorest countries in the world.

#### a) Political System

Afghanistan is a republic with two legislative chambers: the upper House of Elders and the lower House of the People. The executive branch is headed by a president: Hamid Karzai has held that position since 2002, initially appointed by a Loya Jirga (Grand Council) as Interim President and since 2004 as elected president. . Women have 25 percent of seats in the lower house, and almost 17 percent in the upper house. On rare occasions, the government may convene a Loya Jirga to decide on issues of national sovereignty and territorial integrity. Administratively, Afghanistan comprises 34 provinces (*wilayats*) with each province having its own capital and provincial administration. The provinces are further subdivided into around 398 districts, each of which normally covers a city/town and a number of villages. Each district is represented by a district governor. In many parts of the country tribal structures are still very important.

For the past several decades Afghanistan has suffered from persistent conflict/civil war and is still far from long-term peace. The country faces serious political instability and governance issues. In 2010 Transparency International ranked Afghanistan as the third most corrupt country in the world.

#### b) Economy

Afghanistan's economy is recovering from decades of conflict. The economy has improved significantly since the fall of the Taliban regime in 2001 largely because of the infusion of international assistance, the recovery of the agricultural sector, and service sector growth. Real GDP growth averaged 9.2 percent between 2003 and 2012 (though showing high volatility). In 2012/13 GDP growth reached an estimated 11.8 percent, thanks to favourable weather conditions and an exceptional harvest. Inflation decreased to 6.4 percent in 2012/13, down from 10.2 percent in the previous year.

Typically, agriculture accounts for one-fourth to one-third of GDP, depending on annual output. The mining sector, on the other hand, is slowly emerging as a source of growth. The share of mining in GDP has historically been small, as it was only 0.6 percent in 2010/11. In 2012 the first large-scale mining project – Amu Darya oil fields – started its operations, and it is expected that the share of mining in aggregate output will increase in the upcoming years. Opium production in Afghanistan soared to a record in 2007 with about 3 million people reported to be involved in the business but then declined significantly in the years following, as the government started programs to help reduce cultivation of poppy. By 2010 it was reported that 24 out of the country's 34 provinces were free from poppy growing.

Despite the progress of the past few years, Afghanistan is extremely poor, landlocked, and highly dependent on foreign aid. Much of the population continues to suffer from shortages of housing, clean water, electricity, medical care, and jobs. Insecurity, weak governance, lack of infrastructure, and the Afghan Government's difficulty in extending rule of law to all parts of the country have resulted in growing levels of crime and pose challenges to future economic growth. The exchange rate depreciated by 8 percent in 2012, which is likely driven by increased uncertainty over security and the business environment.

The percentage of the population with access to electricity in Afghanistan is among the lowest in the world. The Ministry of Energy and Water estimates that about 30 percent of Afghans have access to electricity from grid-based power, micro-hydro, or solar panel stations. Rural areas, where more than 77 percent of Afghan population lives, remain practically unconnected to the grid or other affordable, sustainable power supply options. Some estimates put rural access to electricity at a mere 9 percent of the total Afghanistan population. The situation has improved significantly in the major urban population centres along the critical North East corridor between Mazar-e-Sharif and Kabul, following the import of power from Uzbekistan and the rehabilitation of three hydro plants (Mahipar and Sarobi completed, and Naghlu ongoing). Increasing parts of some urban centres, for example Kabul, Herat, Mazar-e-Sharif, and Pul-e-Khumri, now have a 24-hour power supply for the first time in decades.

The international community remains committed to Afghanistan's development, pledging over US\$ 67 billion at nine donors' conferences between 2003 and 2010. In July 2012, donors at the Tokyo conference pledged an additional US\$ 16 billion in civilian aid through 2015. Despite this help, the Government of Afghanistan will need to overcome a number of challenges, including low revenue collection, anemic job creation, high levels of corruption, weak government capacity, and poor public infrastructure.

### **c) Population Demographics and Development Indicators**

The total population of Afghanistan is estimated at around 30 million. The country is very multi-ethnic with Pashtuns forming the largest ethnic group followed by Tajiks, Hazaras, Uzbeks, Aimaks, Turkmen, Baloch and others. Dari (Afghan Persian) and Pashto are the main languages spoken, with Dari serving as the lingua franca. There is a high level of bilingualism in the country.

Living standards in Afghanistan are among the lowest in the world. Only 27 percent of Afghans have access to safe drinking water and 5 percent to adequate sanitation (World Bank). According to data from Afghanistan Mortality Survey 2010, life expectancy at birth is 50 years. But there has been considerable progress over the last nine years. About 85 percent of the population lives in districts which now have providers to deliver a basic package of health services. About 57.4 percent of the population lives within one hour's walking distance from a public health facility (NRVA 2007/08). Infant and under-5 mortality in 2010 has declined to 77 and 97 per 1,000 live births respectively, from 111 and 161 per 1,000 live births in 2008.

Similar improvements have been seen in education indicators. In 2001, after the fall of the Taliban, net enrolment was estimated at 43 percent for boys and a dismal 3 percent for girls. Moreover, there were only about 21,000 teachers (largely under-educated) for a school-age population estimated at more than 5 million — or about 240 students for every marginally trained teacher. Since 2002, school enrolment has increased from 1 million to 7.8 million

children; girls' enrolment increased from 191,000 to more than 2.8 million. All of the teacher force, 180,000, have received teacher training.

The widespread prevalence of land mines on agricultural land, pastoral land, roads and access to waterways/water sources continue to put those living and working there at serious risk. One report estimated that in 2009, an average of more than 40 people each month were injured or killed by landmines and explosive remnants of war (boys 48 percent, men 37 per cent, girls 8 per cent, and women 7 per cent).

**d) Situation of Women<sup>20</sup>**

Historically, Afghan women have always been marginalised and accorded subordinate status. The position of women in the family and society has been shaped by many factors and there are strong cultural and historical roots of gender discrimination. Afghanistan is a multi-ethnic and traditional society that has been governed along tribal lines and by a weak central state. In addition, the long years of war and violence in the country, and the resulting unstable political and economic situation, have had a particularly severe impact on women. The rights of women were eroded even further when the Taliban came into power in 1996. The extent of gender discrimination in Afghanistan is pervasive. Gender gaps are widespread in health, education, access to and control over resources, economic opportunities and power and political voice.

Since the ouster of the Taliban in 2001, the political and cultural position of Afghan women has shown improvement to some extent. A robust policy framework has been put in place by the government for the welfare of women including the National Action Plan for the Women of Afghanistan (NAPWA). A dedicated government structure has been established in this regard, the Ministry of Women's Affairs. The Government of Afghanistan has made a series of critical commitments to women, including espousing equality in its Constitution, signing up to international conventions on gender issues, integrating gender concerns throughout its core national development strategy documents, and promoting services for women within many of its key service delivery programs. However, progress has varied considerably across sectors.

Afghanistan's health indicators are among the worst in the world, particularly in the areas of child health and women's reproductive health. A range of factors have contributed to this situation, such as the lack of access to basic health facilities, low marriage age and insufficient awareness of health, hygiene and nutrition. But there has been notable progress since 2005 including: a lower maternal mortality ratio; a lower fertility rate; an increase in qualified female health professionals; and a far wider network of health facilities capable of providing reproductive healthcare.

Similar progress has been seen in the education sector. Factors traditionally hampering girls' access to education include lack of access to education facilities, lack of security, poverty, low marriage age and parents' negative attitude towards girls' education. Nonetheless, in recent years the number of girls attending school at each level of education has increased significantly, particularly at primary level, with more modest increases at secondary and

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<sup>20</sup> *Hajlot Kaur and Najiya Ayubi, 'Status of Women in Afghanistan' in State Building, Security, and Social Change in Afghanistan: Reflections on a Survey of the Afghan People (Asia Foundation, 2009); Afghanistan: National Reconstruction and Poverty Reduction – The Role of Women in Afghanistan's Future (World Bank, 2005); Women's Role in Afghanistan's Future – Taking Stock of Achievements and Continued Challenges (World Bank, June 2013).*

tertiary levels. The expansion of the Government's network of schools has been remarkable, and there has also been an increase in the number of female teachers, a factor that has an impact on girls' school attendance, especially in higher grades.

The traditional role of women in Afghanistan is a constraint to their more equitable participation in economic activities. Women also have few marketable skills and generally poor education, with an estimated female literacy rate of 21 percent. Women tend to be employed in informal work that is often home-based, or takes place as an unremunerated contribution to the agricultural sector – this despite the fact that women play an extremely important role in all dimensions of agricultural production. They are also under-represented in other areas, such as in the private sector and as public servants. Qualified female professionals in social sector jobs (like health and education) have increased but are still scarce.

As citizens, Afghan women face constitutional equality but legal inequality. Furthermore, there are great discrepancies between customary law, civil law and Islamic Law - as well as the informal justice system, which tends to grant women even less rights. Years of conflict and violence have further eroded the protection of women's (limited) rights. Violence against women is widespread, inside and outside the household. Crimes against women are under-reported due to social stigma, and crimes which are reported are most often handled through local informal dispute resolution mechanisms, largely applying customary laws. Though some positive formal legal reforms have been adopted, their application is inconsistent at best. Women are severely underrepresented as professionals in the legal system, making access to justice even more difficult for female victims.

There have been some notable improvements in the participation of women in public life, including in legislative bodies: indeed, Afghanistan now has one of the highest rates of female participation in the National Parliament in the region. Achievements are also being made at the local level, largely because of the growing focus within the government and among donors on providing aid assistance directly to communities. Women, who have traditionally not been consulted on community issues, are now being included in forums to determine village and neighbourhood development priorities, and to design and implement projects to address their problems. However, evidence from the most recent elections and other studies demonstrates that their gains in public participation are restricted due to threats of violence and other barriers, including the apparent misapplication of quota systems.

In sum, while women in Afghanistan have made significant progress over the past decade, they still face major issues in access to services such as education and health, accessing land and property rights, and becoming empowered members of society.

#### **4.1.2 Affected Regions**

As part of the CASA-1000 project, a 500 kV HVDC transmission line will pass through Afghanistan for a total of 562 km. The line will provide power (300 MW) to Afghanistan, as well as carry this to Pakistan.

#### **Socio-Economic Profile Based on Community Benefit Survey**

In 2012 UN-HABITAT Afghanistan conducted a research study on 'Assessment of Options for Community Benefit Sharing for CASA-1000'. The study relied extensively on focus group discussions with communities in project affected areas of the country (see Box 1), and entailed development of a socio-economic profile of these areas, as well as assessment of

likely social impacts of the project, community concerns and views, and identification of options for community support programs. The socio-economic profile developed as part of the community benefit sharing option survey is given below.

**Box 1: Methodology for Community Benefit Sharing Survey**

A corridor width of 4 km (2 km each side of the transmission line) was considered for mapping the communities along the transmission line. Focus Group Discussion (FGD) was organized at the district level with 10% representation of communities which were selected based on certain principles such as different geography, representation of certain length along the transmission line, vulnerable group (women, returnees, IDPs, differently-able people) to address equity and inclusion issues, participation of local authorities, and existence of local community institutions etc. A total of 57 communities, spread over in 23 districts of 6 provinces, were consulted through FGDs. The FGD enabled the community members with an opportunity and space for interaction, communication and joint decision-making. The FGD was very productive as it provided valuable inputs, community concerns and their response around shared priorities regarding benefit sharing options for CASA 1000.

**a) Population and Vulnerable Groups**

The transmission line was found to pass through 616 communities of 23 districts in 6 provinces, with a total of 151,947 families. Table 3 details the provinces and districts affected. Numbers of families belonging to different vulnerable groups were as follows: a) returnees – 16,034 families (11 percent of total); b) IDPs – 8,237 families (6 percent); c) differently able (disabled) – 5,786 families (4 percent); and d) female-headed – 7,426 families (5 percent).

**Table3: Demography Along CASA-1000 Transmission Line 4 km Corridor in Afghanistan**

Province	District	# of Communities within 4 km corridor	Total # of Families (100 %)	% of Families Belonging to			
				Returnees	IDPs	Differently Able	Female Headed
Parwan	Salang	20	3,238	16	3	4	3
	Jabul-us Seraj	29	5,969	3	7	4	7
	Sayad Khel	24	5,657	3	2	4	6
	Charikar	25	12,087	9	11	5	7
	Bagram	22	8,355	14	9	4	5
Nangarhar	Bihsud	25	7,188	4	4	3	3
	Kama	27	6,229	7	14	2	3
	Bati Kot	32	8,740	1	2	2	3
	Lalpura	17	4,307	6	3	2	3
	Mohmand Dara	17	4,798	3	3	3	3
Kunduz	Imam Sahib	11	3,007	33	0	0	4
	Chahar Dara	40	12,952	8	0	0	5
	Aliabad	49	12,185	9	0	4	5
Baghlan	Baghlani Jadid	34	3,737	9	6	5	4
	Pul-i Khurmi	33	8,823	8	2	4	4
	Doshi	74	7,317	9	8	9	7
	Khinjan	25	7,250	6	5	9	7
Kabul	Qarabagh	17	9,910	25	25	4	7
	Kalakan	6	2,760	22	4	5	8
	Deh Sabz	11	3,593	15	20	4	2

	Kabul District 21	10	2,286	25	18	3	2
	Surobi	21	1,764	18	12	3	6
Laghman	Qarghayi	47	9,795	19	0.1	5	4
<b>6</b>	<b>23</b>	<b>616</b>	<b>151,947</b>	<b>11</b>	<b>6</b>	<b>4</b>	<b>5</b>

#### b) Access to Power

The survey found that, out of six provinces that would host the 562 km transmission line, 10 to 30 percent of the population in three provinces (Kunduz, Baghlan and Parwan) had connection to the electricity grid, while less than 10 percent of the population in two provinces (Laghman and Nangarhar) were connected to the grid. The range of connection to the grid for the Kabul population was estimated to be between 30 and 50 percent.

Communities within the 4 km corridor transmission line of 4 districts: Jabulsaraj in Parwan; Imam Sahib in Kunduz; and District 21 and Surobi Kabul were found to have almost universal electricity coverage (grid connection). In other districts, as detailed in Table 4, a very wide gap existed between families with and without electricity. Those families having electricity were either connected to on-grid, off-grid or had their own power systems. Off-grid system was primarily supported through micro-hydro power, solar panels and diesel generators through NSP, NABDP<sup>21</sup> and other similar programmes.

**Table 4: Electricity Coverage Among Communities Along CASA-1000 Transmission Line Route**

Province	District	# of Communities within 4 km corridor	Total # of Families (100 %)	% of Families with Electricity	% of Families without Electricity
Parwan	Salang	20	3,238	41	59
	Jabal-us Saraj	29	5,969	100	0
	Sayad Khel	24	5,657	26	74
	Charikar	25	12,087	14	86
	Bagram	22	8,355	25	75
Nangarhar	Bisud	25	7,188	68	32
	Kama	27	6,229	65	35
	Bati Kot	32	8,740	19	81
	Lalpora	17	4,307	0	100
	Mohmand Dara	17	4,798	3	97
Kunduz	Imam Sahib	11	3,007	93	7
	Chahar Dara	40	12,952	55	45
	Aliabad	49	12,185	0	100
Baghlan	Baghlani Jadid	34	3,737	11	89
	Pul-i Khurmi	33	8,823	69	31
	Doshi	74	7,317	3	97
	Khinjan	25	7,250	0	100
Kabul	Qarabagh	17	9,910	4	96
	Kalakan	6	2,760	30	70

<sup>21</sup> National Solidarity Programme, National Area Based Development Programme

	Deh Sabz	11	3,593	0	100
	Kabul District 21	10	2,286	100	0
	Surobi	21	1,764	100	0
Laghman	Qarghayi	47	9,795	12	88
<b>6</b>	<b>23</b>	<b>616</b>	<b>151,947</b>	<b>31.4</b>	<b>68.6</b>

### **Socio-Economic Profile Based on IEL Social Impact Assessment**

In 2011 Integrated Environments Ltd (IEL) submitted an environmental and social impact assessment report for the CASA-1000 project. Information for the Afghanistan social impact assessment was derived from previous environmental and social assessments and complemented by newly acquired 6 m satellite imagery for the 562 km portion of transmission line in Afghanistan. The findings of the IEL assessment with regard to the socio-economic profile of the CASA-1000 project affected areas are as follows:

#### **a) Population**

About 26 settlements were found to be located along the project corridor. The majority of the residents lived in rural settlements with populations of 500-9,000. There were eight settlements located within the COI that can be avoided with judicious route selection. The settlements within the COI were: Omar Khel, Bamyan, Top Dara area, Qarabagh, Cheshma-e-Dogh, Qala-e-Murad Beg, Mahipar, and Marko Bazar. . Seven main ethnic groups and six main tribes resided along the COI, each tribe having its own traditions and customs. Dari and Pashto were the common languages spoken in the area.

As of 2006, 45 percent of the population was under 15 years old, 2 percent was older than 64 and the average house consisted of 10 to 18 residents. The literacy rate of the population within the COI was 36 percent due to insufficient funds, unsafe schools, and a long history of war and occupation. The literacy rate for women was found to be far behind to that of the men.

#### **b) Land Use and Access to Services and Power**

The majority of the land in the COI was found to be rough and mountainous with very little vegetation and generally unused. Flat areas near water resources supported agricultural activities. The average yield of wheat was 2,721 kg/ha and 1,217 kg/ha for maize. However, a lot of agricultural lands had become unusable because of destroyed irrigation systems and land mines. An average household owned 1.2 ha of agricultural land.

The survey found that more than 67 percent of residents lived in mud houses, the remainder of the population lived in homes that are built with various amounts of concrete. The water sources included nearby streams, springs, and rivers that were heavily contaminated by land mines. Approximately 50 percent of the population had access to electricity but not to health facilities, schools and paved roads.

#### **c) Sources of Livelihood**

The common sources of income for local residents in the COI were found to be agriculture, daily wage labour, transportation and small businesses. The average household spent over 75 percent of their annual income on basic food needs. There were few legal livelihoods available to the people: poppy production and trade were also carried out.

#### **d) Situation of Women**

Women in the affected areas suffered the same problems and issues currently facing women across Afghanistan including traditional attitudes that restrict women's movement and access to services and opportunities; lack of education and health services; lack of security; limited participation in public life and decision making; and limited opportunities for work and employment.

As noted, women face issues in accessing legal rights; this includes land rights. While Islamic law grants women rights to inherit property, the situation in practice varies across ethnic groups and regions. Among Pashtuns and Uzbeks, for example, there are negligible cases of female land ownership, while among Tajiks there are female landowners. A common trend among the former is for females to surrender any land they inherit to their brothers or other close male relatives. This is seen as necessary to retain their support and protection. Even where women do have land in their name, this is mostly *de jure* rather than *de facto* ownership: male relatives control the land, what to cultivate on it, and whether to sell it or not.

#### **e) Vulnerable Groups**

In Afghanistan an estimated 161 sq. km of agricultural land is contaminated by land mines. A majority of the mines are in pastoral land. Mining contamination has attributed to a severe loss of livelihood and livestock, restricted access to land and exacerbated food insecurity. Approximately one-third of the residents within the proposed transmission line route lived below the poverty line and were considered "vulnerable".

There is a severe lack of access for people in Afghanistan to proper shelter, potable water and sanitation exacerbating health and hygiene problems resulting in extreme hardship for all sectors of the population.

Lack of tenure security and clear land related legal and policy frameworks are causing conflicts among individuals and between communities, and between communities and the State. These conflicts are exacerbating past and present ethnic and religious conflicts, impinging upon current development and rehabilitation programs, affecting healthy and sustainable development of both the agricultural and private sector and undermining public trust in the ability of government to promote development and protect citizens and their rights. The lacunas in the regulatory framework are further compounded by the weak implementation capacity and coordination difficulties on the government side, and results in substantial inconsistencies in application of any land related law. Conflict, vulnerability, and land disputes have been greatly heightened by the massive population displacement that has occurred in Afghanistan. Internationally, restoration of property rights is recognized as a major factor in enabling IDPs and returning refugees to restore their livelihood. .

## **4.2 PROJECT IMPACT**

### **4.2.1 Methodology**

As noted above, the CASA-1000 design includes a 562 km 500 kV line through Afghanistan. The social impact assessment of the CASA-1000 project on affected areas in Afghanistan is largely based on the *ESIA and ESMP of the Central Asia South Asia Electricity Transmission Project (CASA 1000): Feasibility Stage* submitted in 2011 by Integrated Environments Ltd. The IEL ESIA entailed the preparation of environmental and social alignment sheets, using new satellite imagery to document specific environmental and social concerns and proposed

mitigation measures along the entire CASA-1000 transmission line route. In the case of some other countries detailed field surveys were conducted, but in Afghanistan the social impact assessment relied virtually entirely on the environmental and social alignment sheets.

#### 4.2.2 Social Features Based on Alignment Sheets

Table 5 below details the social features potentially impacted by the CASA-1000 project, as gathered from alignment sheets for the whole length of the proposed transmission line route through Afghanistan.

**Table 5: Social Features along CASA-1000 project in Afghanistan as gauged from environmental and social alignment sheets**

Alignment Sheet	Description of Social Features
AS-054	The COI transects the community infrastructure of Sher Khan Bandar and a religious site. The COI includes a large river crossing, community infrastructure, roads and vegetated areas
AS-055	Proposed T/L route parallels the road to Kunduz
AS-056	As above
AS-057	As above
AS-058	The proposed T/L route traverses cultivated land; portions of agriculture land, dense community infrastructure of Kunduz, and various roads are transected by the T/L route.
AS-059	Agriculture land is transected by the route; the COI includes numerous watercourse crossings, community infrastructure and vegetated areas.
AS-060	Aliabad town, intermittent gardens, subroads and Kunduz River are all traversed by the T/L route.
AS-061	The proposed T/L passes through the village of Jelogeer.
AS-062	The villages of Chaharshambeh Tapa, Muhajer and New Baghlan City are in the COI of the T/L route. The main road to Kabul is very close, but the proposed T/L route does not cross the road.
AS-063	The T/L route continues through the community infrastructure of Muhajer Village, Baghlan City, and Qurghata Village. The COI includes the New Baghlan River, as well as cultivated land and community infrastructure.
AS-064	Muhajer Village, Baghlan City, and Qurghata Village are transected by the T/L route. The COI includes a large watercourse and cultivated land.
AS-065	The T/L passes through a mountainous area then through cultivated land of the nearby communities of Qurghata Village and Umar Khel Village and through community infrastructure, roads and watercourses of Kokan, Pul-e-Khumri, Umar Khel Village.
AS-066	The T/L route continues through Pul-e-Khumri, Umar Khel Village and roads in the dense community infrastructure of Kokan. The route later intersects Hashem Khan Bridge, Ghori Cement Firm and Pul-e-Khumri River. The A76 highway is in the vicinity of the COI.
AS-067	The T/L route crosses Pul-e-Khumri River, roads and the community of Pul-e-Khumri.
AS-068	The proposed T/L route enters Karaka village; the COI includes watercourse crossing and cultivated lands.
AS-069	The proposed T/L route enters the Doshi River valley and crosses the river, where it is surrounded by cultivated land and community infrastructure.
AS-070	Doshi River (also known as Salang River) is very close to the proposed T/L route; for about half of the route the river parallels the COI. The town of Doshi is in the river valley, wild fruit trees grow on the slopes.
AS-071	The proposed T/L route crosses the Salang River, and later Kuru and Gazan canals.

AS-072	The proposed T/L route crosses a heavily vegetated area and a water course.
AS-073	Community infrastructure, cultivated lands, Salang River (Panjsheer River) and A76 Highway are intermittently parallel to the route and are crossed in many locations.
AS-074	Steep slopes are covered with juniper and other trees (could require compensation).
AS-075	Steep slopes are covered with juniper and other trees (could require compensation).
AS-076	Highway A76 and the Salang River are transected by the COI.
AS-077	The T/L route follows the road into the Afghanistan province of Parwan and crosses the Salang River, it continues to follow the road and traverses Bilandi Village and Baba Mardan Village, Bakhs-Lala Village, Kangar Bridge, and a pedestrian bridge.
AS-078	The Salang River and the dense community infrastructure of Jabal-uos Seraj is transected by the proposed T/L route. Cultivated land is dominant beyond this.
AS-079	The proposed T/L route continues to transect dense community infrastructure. The dominant agriculture and cultivated land continues from Jabal os Seraj to Charikar.
AS-080	The dense community infrastructure and cultivated land of Qarabagh City is transected by the proposed T/L route; later sub-roads and a watercourse are crossed.
AS-081	The proposed T/L route crosses Qala-e-Gulbaz Village and Kabul River.
AS-082	The proposed T/L route traverses Pul-i Charkhi village, then crosses a watercourse and enters Deh-I Yahya Village where cultivated land is sporadic; later dense community infrastructure and cultivated land are transected.
AS-083	The proposed T/L route continues through Deh-I Yahya Village and crosses a watercourse before traversing the "Salt Pit" (a CIA Interrogation Site), a tank cemetery and a Military Training Centre. Also falling within the COI are Pul-I Charkhi Bridge, Pul-I Charkhi Prison Road and the Surobi T/L.
AS-084	The proposed T/L route traverses the Sorobi T/L, a watercourse, a cultural site (Radio Afghanistan Kabul), and Military/conflict zones (Pul-i-Charkhi Prison, a Military Training Centre, and Airborne Regiment).
AS-085	A cultural site is present and a watercourse is transected by the proposed T/L route.
AS-086	The proposed T/L route traverses a large watercourse.
AS-087	The proposed T/L route transects a watercourse, a road and community infrastructure.
AS-088	None.
AS-089	The proposed T/L route transects several watercourses.
AS-090	The proposed T/L route is surrounded by small watercourse crossings.
AS-091	The proposed T/L route is very close to the highway.
AS-092	The community Khayrow Khel is north of Kabul River, outside of the COI, but the community proximity is a socio-cultural concern.
AS-093	Darunta River and Darunta community infrastructure are crossed by the COI.
AS-094	Dense community infrastructure and cultivated land is traversed
AS-095	The dense community infrastructure and cultivated land is dominant.
AS-096	Land use is predominantly agricultural.
AS-097	The proposed T/L route transects the community of Basawul, surrounding agricultural land and a watercourse. An irrigation canal is located in the COI.
AS-098	Communities along the proposed T/L route include Mohmand Darrah and Hazar Now, both located south of Jalalabad River (also known as Kabul River). There is one watercourse crossing identified in the COI within the dense community infrastructure.
AS-099	The community of Hazar Now continues to be transected by the proposed T/L route.

As seen in Table 5, the proposed transmission line route passes through a number of settlements/villages, and in some areas through cultivated land, water courses and community

infrastructure. The likely social impact of the project will therefore not be massive, but not insignificant either.

#### **4.2.3 Social Impact Assessment**

The likely social impact from construction and operation of the CASA-1000 transmission line through Afghanistan is as follows:

##### **a) Water**

Local water supplies are required for the construction of the T/L and campsites. Local communities may have water shortages to meet their domestic and agriculture needs, and contractors would need to identify water sources in consultation with local communities, as is usual practice.

##### **b) Land Acquisition**

It is anticipated that permanent land acquisition will be limited for this project, as the land surrounding towers may be used for agriculture purposes. Relocation of homes may be avoidable or minimal. Temporary land acquisition will be necessary for the Contractors camps/work areas, aggregate quarries, and access roads. One camp will extend over approximately 2,500 m<sup>3</sup>. The impact of permanent land acquisition is not expected to be significant with implementing compensation and mitigation measures outlined in the Land Acquisition Resettlement Framework (LARF).

##### **c) Crop and Tree Loss**

The fertile areas near streams/rivers may experience damage to crops such as wheat, maize and fodder and farming activities will be delayed due to construction. Because of the relatively small number of trees in the COI and due to the fact that trees will only have to be cut if they are within 25 meters of the centreline it is unlikely that many trees will be affected during the construction of the T/L. The important species of trees within the COI include Mulberry, apricot and poplar. The exact number of trees that will be cut can only be determined once the location of the centreline and the towers has been fixed during the final design phase of project development.

##### **d) Livelihoods**

Local farmers may experience temporary loss of income due to tower and/or access road construction. The magnitude of the losses will be estimated once the tower and access road locations have been determined. Preference will be given to affected people when locals are hired by the Contractor. Local residents will have the opportunity to work for the Contractor and local goods and services will be used when possible.

##### **e) Gender Issues**

Women in rural areas spend a lot of time in the field and construction through these areas may cause an invasion of privacy. Local contracts normally include guidelines for contractors regarding how to avoid violating the privacy of nearby communities. With careful route selection, impacts on routine activities should be minimal. Residents who live within 500 m of blasting sites will have to be notified 24 hours in advance of blasting activity. The area within 200 m of the blasting site will need to be evacuated a minimum of 15 minutes prior to the blast. The Contractor should coordinate with local leaders and elders to ensure conflicts

are effectively prevented or quickly resolved. Local goods, services and workers will be employed when feasible.

**f) Health and Safety**

Construction workers may be exposed to minor nuisances from noise to serious health and privacy concerns. Potential presence of undetected land mines along the COI route is a concern, but Procedures for Mine Risk Management in World Bank-Funded Projects in Afghanistan have been followed for the last ten years.

### **4.3 SOCIAL MANAGEMENT PLAN**

#### **4.3.1 Project Implementation Mitigation Measures**

As noted above, the social impact of the project itself is not massive but also not insignificant: permanent land acquisition will be needed to a small extent, there will be some temporary land acquisition, there could be some temporary disruption of infrastructure (e.g. roads, power lines) during construction, and some crops may be damaged during construction. The following mitigation measures can be taken in relation to these:

**a) Design Stage**

- Settlements and social infrastructure should not be disturbed;
- ROW clearance should be maximized to avoid accidents;
- Impact on of agricultural land should be kept to a minimum.

**b) Pre-Construction Stage**

- Arrange for conduct of cadastre survey and land clearance;
- Undertake Household census of project affected people identifying affected land, structures, crops and other assets;
- Compensation for loss of buildings and community assets should be based on replacement value and current market rates;
- Compensation for loss of commercial structures should be based on current market rates;
- Compensation should occur before construction activities commence;
- Loss of tress must be avoided where possible. In the event trees must be removed compensation should be negotiated with owners;
- A Compensation Disbursement Committee should be formed and include affected people to ensure compensation is disbursed appropriately.

**c) Construction Stage**

- Tower placement is preferred in the corner or border of the field in agricultural land;
- Construction should commence after harvest;
- The Contractor should arrange its own groundwater extraction or utilization of surface water due to the shortage;
- All investments made by the Contractor during construction (tube wells/pumps) should be given to local residents at the end of construction;
- Extra care must be taken to avoid damage to trees;
- The privacy of local women is to be respected;
- Local people shall be employed whenever possible;

- Preference shall be given to those directly affected.

#### **4.3.2 Importance of Broad Social Management Plan**

The above mitigation measures address the direct impact of the project on local communities, i.e. the social impact as a result of design and construction of the project. However, the social management plan for the project needs to take a much broader approach. This is important for the following reasons:

Firstly, local communities will not be able to derive power supply directly from the transmission line, even though it passes by them, because it will be a high voltage line. As noted already, lack of reliable electricity supply – particularly in winter months – is a major problem in the region. Inability to access power from the line could lead to local frustration.

Secondly, no matter how minimal, all the negative effects of the project will be experienced by communities along the T/L route. The benefits, by contrast, will go to people much further away (some in Afghanistan and others in Pakistan) who will not suffer any disruption or inconvenience because of the line. This leads to an equity issue between those immediately affected who will not benefit directly from the line (and could suffer some disruption), and the larger society that will benefit. Unless efforts are made to address this inequity – as well as local frustration at not being able to access power from the line - this could affect the project's implementation and operation in the long run. Thirdly, it is important to create local ownership of the project to mitigate any potential risk of it being targeted by parties with ulterior motives.

For all these reasons community support schemes need to be prioritized. It is important to make local communities 'stakeholders' in the project, so that they too have an interest in ensuring its success.

#### **4.3.3 Perceptions of Communities in Affected Areas**

##### **a) Obstacles to Sustainable Electricity**

During focus group discussions (FGD), the communities were requested to identify major obstacles that impede their access to electricity. Based on the analysis from discussion outcomes, communities cited lack of political will, absence of government's investment plan to meet energy demand, adverse security situation and rugged terrain as the key obstacles to having a reliable, affordable and sustainable access to electricity. Where there are transmission lines, communities said that there was no attention for extension and distribution of network for all the households.

Without sustainable electricity, communities feel disadvantaged in nearly every aspect of their lives. Having electricity means the ability to study at night and get an education for their children. It means the difference between subsistence farming, having access to information technology to enable increased crop yields and to make a decent living. It allows people to have and power cell phones<sup>22</sup> for improved communication and Internet. Some communities even remarked that lack of electricity is one of the largest barriers to overcoming poverty, and as long as they continue to live in the dark they will remain poor and yet bringing electricity to areas that have none lacks both funding and attention that it deserves.

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<sup>22</sup> Afghanistan is reported to have exceeded 50% cell phone penetration rate (MoCIT, Jan 2012)

## b) Perceptions about CASA-1000 Project

The key concern of communities in all the districts was that they would not be able to get direct access to on-grid connection despite the fact that the transmission line would pass through/near their neighbourhood. Their other concerns were about the possibility of their (agriculture) land and houses being affected. There were also a few cases where communities said the electromagnetic waves from transmission line during thunderstorms might even impact on their health particularly those of women and children, which perhaps can be attributed to their education levels and lack of knowledge. While communities were happy to learn that no major environmental and social impacts were foreseen by (previous) CASA-1000 social impact assessment study, they thought that their land and houses would be encroached. All the communities unequivocally stated that they should be provided with alternative opportunities to have priority projects closer to their dwellings to offset the lack of direct benefits from CASA-1000. Table 6 summarises the key concerns of community members.

**Table 6: Summary of Key Concerns Expressed by Local Communities in Afghanistan**

Province	What is your key concern given that CASA 1000 cannot provide direct benefits?	
	Men	Women
<b>Parwan</b>	Possibility of agriculture land and houses being affected by the construction of transmission line. Might be also harmful to livestock and plants	They would like to see their children live a healthier and productive life through sustainable access to electricity
<b>Nangarhar</b>	Fear of possible expropriation of land and damage to individual agriculture land	It might create electromagnetic waves particularly during thunder storms which could prove dangerous to health
<b>Kunduz</b>	The electromagnetic wave might affect health and livestock	The electricity transmission line might affect pregnant women. Some women remarked that even if they don't have direct benefits, government might have some benefits
<b>Baghlan</b>	Fear of possible expropriation of land	Particularly concerned about health of their children due to electromagnetic waves
<b>Kabul</b>	Exploring the possibility for direct access from planned CASA substation in Kabul particularly for those districts which have no grid connection	
<b>Laghman</b>	A strong demand for exploring the feasibility of electricity generation from Naghlu/Darunta Dams/direct access from the transmission line	

Communities could also see the potential economic impact of construction of the transmission line in their areas. This could provide them with job opportunities during construction, enhance local capacity to manage similar projects in the future, while creating ripple economic effects in their neighbourhoods in the long run.

### 4.3.4 Options for Community Support Programs

It is important that benefit sharing interventions be tailored to local development needs and community preferences. During community-wide FGDs, options for benefit sharing projects were discussed and consensus reached on these. The following factors were used to decide priority projects:

- Current electricity coverage and electrification plan/projects to provide electricity;

- Potential for projects to contribute to lasting behaviour changes for the whole community and not just a few households;
- Capacity of community to effectively plan and manage projects on their own, subject to availability of financing;
- Potential for sustainability of projects;
- Potential for multiplier effects through projects.

Based on the analysis of FGDs held in diverse 57 communities across 23 districts of 6 provinces, local level projects were prioritised in terms for MHP/Solar for off-grid electricity and productive community infrastructure projects. Table 7 summarizes the communities to be served by each and rationale for the selection.

**Table 7: List of potential Community Support Projects Based on FGD**

Model	Districts (23)	Province	Rationale
Off-grid electricity	Kama, Batikot, Lalpurar, Mohmand Dara (Behsud covered by Solar)	Nangarhar	No confirmed plan/project for on-grid connection
	Salang	Parwan	
	Ali Abad	Kunduz	
	Qarghayi	Laghman	
Other Infrastructure Projects	Jabul-us Saraj	Parwan	Already covered through on-grid connection
	Imam Sahib	Kunduz	
	District 21 and Surobi	Kabul	
	Chaharr Dara	Kunduz	On-going project for grid-connection
	Sayed Khel, Charikar and Bagram	Parwan	
	Baghlan Jadid, Pul-I Khumri, Doshi, Khinjan	Baghlan	
	Qarabagh, Kalakan, Dehsabz and Surobi	Kabul	

Details of these projects can be found in the full *Community Benefit Sharing Option* report, but a brief description of each is as follows:

**a) Off-grid Rural Energy System**

In Afghanistan, where the vast majority of the country does not have access to the national grid, renewable energy solutions utilizing small, medium hydro, mini and solar resources can provide a reliable, cost-effective and standardized supply of electric power. Hydropower and solar systems were found to be the top priorities of the communities.

Small (Micro) Hydro Power: Implementation of micro-hydropower projects could be supported, depending on the availability of a water source with sufficient head. Micro-hydropower (capacity below 100 kW) is extensively used and promoted by NSP, NABDP and other agencies due to its high potential in the country, availability of service providers, and relative ease in operation and management. Relevant guidelines for survey, design, operation and maintenance and sustainability of micro-hydropower projects are already prepared by NSP and could be used for future planning and implementation.

Medium Hydro Power: Medium hydropower, defined as capacity ranging from 100 kW to 1000 kW, could be considered for implementation in coordination with MEW and DABS. Use of this should be carefully considered as it requires more advanced design and implementation skills, and better management and operation to ensure sustainability.

Solar Photovoltaic Technology: Solar photovoltaic system provides a viable option and solution for providing a basic lighting facility to rural households where there is no possibility for hydropower or other forms of electricity. This technology could be provided to individual households but, as far as possible, one project should cover all the needs of a particular community. However, an individual user/household should have the freedom to choose if they are prepared to pay for it.

Institutional solar systems could also be supported for community institutions (schools, health centres, mosques and community halls) in rural areas. This kind of support would be intended to provide basic lighting and allow operation of basic equipment (computer, small printer, or running vaccine refrigerator in a health post). Other institutional application for solar photovoltaic technology could be solar water pumping for drinking water and small scale irrigation.

#### **b) Priority Infrastructure Projects**

The types of projects prioritized under this category include:

- Transport (Road, Retaining Wall, Culvert);
- School Building (New and/or Renovation);
- Health Clinic (New and/or Renovation);
- Water Supply (Distribution Network, Well, Intake and Reservoir)
- Irrigation (Canal, Protection Wall).

It is critical that planning and implementation of infrastructure projects be coordinated with the relevant line Ministries, for instance construction of schools or health clinics can only be done according to plans of Ministry of Education and Ministry of Public Health so that adequate and skilled human resources and other necessary elements are provided for, to ensure interventions are functional and can be sustained. Likewise, coordination with the Ministry of Rural Rehabilitation and Development (MRRD) will be essential while planning rural infrastructure projects such as roads and water supply.

#### **c) Energy Saving Interventions**

It is possible to improve energy efficiency in many ways. The production, distribution, and use of energy all offer opportunities. Buildings can be insulated better, industries can upgrade equipment, and inefficient power plants can be rehabilitated or replaced with more efficient ones. These opportunities can be captured in every sector of the economy. The solutions need to be as diverse as the problems, and they need to include improving technologies, setting the right prices, and opening markets.

Examples of energy saving interventions that could be promoted in CASA-1000 affected areas include: use of energy efficient compact fluorescent lamps; use of improved cooking stoves which are more efficient than traditional stoves and generate less health-damaging smoke; establishment of biogas (from animal waste) plants for heating and cooking, thereby reducing use of wood – thus reducing environmental damage, reducing indoor air pollution, and saving time and labour in collecting wood; use of solar thermal technology, e.g. for cooking and heating; better insulation of houses and buildings; use of efficient irrigation pumping systems; use of wind energy.

Some of these energy saving technologies are already being used in parts of the CASA-1000 affected area, providing a foundation for wider application of these. In villages with access to electricity, communities were found to have been using energy efficient compact

fluorescent lamps instead of high watt traditional bulbs. In some of the relatively well-off communities, about 10-30 percent of the community members were found to be using heat preserving Bukharies. Improved Cook Stoves and Biogas Plants were limited in use, but women in many districts of all provinces said that they would like to resort to these to improve their kitchen environment and health conditions. While none of the communities were found to be practicing solar thermal technology, some communities in Nangarhar, Kunduz and Baghlan were found to be keen. Given that economy of rural communities is primarily agriculture, there is a widespread interest on improved pumping systems for irrigation and efficient water use such as drip irrigation.

#### **d) Extension of On-Grid Electricity in Rural Areas**

Rural areas having proximity to the main grid can also be supported for grid extension in exceptional cases. The feasibility of grid extension could be explored: capacity, voltage drop in the network, and tariff system are the key considerations to look into for distribution planning. It is the mandate of DABS to extend the grid electricity in the rural areas as per the approved plan. In cases of strong local community demand particularly in those areas where DABS does not have an extension plan, a possibility could be explored for grid extension. As CASA-1000 provides for establishment of a sub-station in Kabul, connection to en-route communities could be considered.

#### **4.3.5 Institutional Arrangements for Community Support Programs**

It should be stressed that the interventions outlined proposals above are **indicative at best** – they have not been finalized. This will only happen once the transmission line route is decided and further consultations are held with local communities and others about community support program options.

With regard to implementation, it will be important to involve communities themselves in this. Five types of community institutions were found to be in existence across six provinces. As the locally elected institutions, the Community Development Councils (CDCs) are in existence in all the FGD communities. These CDCs are governed by the CDC by-laws and have an important role in ensuring community priority projects are selected for implementation. Irrigation Associations were found to be well functioning in many communities of six provinces, some since time immemorial. The key roles performed by Irrigation Associations are operation and maintenance, equitable water distribution, and collection of service fees. Youth Associations were found in some communities, these empower Afghan girls and boys by enabling them to participate in education and social cohesion activities. Self-Help Groups were found to be popular in many communities, providing a convenient vehicle for community members to engage in savings, livelihood and social activities. Agriculture Cooperatives, present in a limited number of communities, are engaged in the promotion of agriculture activities and seeds.

It will be very important to explore the possibility of utilizing these community institutions and minimize the creation of new institutional structures for supporting implementation and operation and maintenance of community support projects. Also very important will be establishment of partnership arrangements between the affected local communities, local governments and an external implementing agency. This type of arrangement not only strengthens local institutions but also maximizes value for money for development assistance.

For those local infrastructure projects where communities have proven capacity, implementation could be done by communities themselves through community contracts.

Complex projects which are beyond the capacity of local communities, implementation could be done through private sector or other suitable entities following a competitive bidding process. This will be particularly necessary in the case of power projects, both hydro and solar.

## **5. PAKISTAN**

### **5.1 SOCIO-ECONOMIC PROFILE**

#### **5.1.1 Country Context**

Pakistan, officially called the Islamic Republic of Pakistan, is neighbored by Iran to the west, Afghanistan to the west and north, China to the far north-east, and India to the east. With a population of over 180 million it is the sixth most populous country in the world. Strategically located at the crossroads of Central, South and Western Asia, it is also one of the most troubled countries in the region – facing serious development and security challenges.

#### **a) Political System**

Pakistan has a federal structure, comprising four provinces (Punjab, Khyber Pakhtunkhwa, Sindh and Balochistan), plus Azad Jammu and Kashmir (AJK), Gilgit-Baltistan (G-B), the Federally Administered Tribal Areas (FATA) and Islamabad Capital Territory. Each of the provinces plus AJK and G-B has its own legislative body. The provinces are divided into 105 districts, which are further sub-divided into *tehsils/talukas*. At national level, the country has a bicameral legislature comprising the upper Senate and lower National Assembly (which includes 60 reserved seats for women and 10 for religious minorities). The president is the official head of state, while the government is headed by a prime minister.

The political situation in Pakistan was long characterized by regular periods of military rule but recent years have seen a marked strengthening of democracy. Elections held in May 2013 came after a civilian elected government completed its full term in office – the first time this had happened in the country's history. Other factors which have shaped the country are long-standing tension with India (including three wars plus the Kargil conflict) and regional developments (notably in Afghanistan) which have contributed to a rise in religious extremism and militancy in Pakistan. Today this is one of the most serious threats facing the nuclear-armed country.

#### **b) Economy**

Pakistan's large land area and population (with a large proportion of working age), rich natural resources and strategic location all contribute to the country's huge economic potential. Unfortunately factors such as persistent political instability, tensions with India, a deteriorating security situation, lack of investment in health and education, weak governance, growing energy and water crises, and repeated major natural disasters, have meant it has failed to realize this potential.

After a growth spurt in the early 2000s, economic growth averaged around 3 percent between 2008 and 2012. Inflation climbed from 7.7 percent in 2007 to almost 12 percent for 2011, before declining to 10 percent in 2012. As a result of political and economic instability, the Pakistani rupee has depreciated more than 40 percent since 2007. The government agreed to an International Monetary Fund Standby Arrangement in November 2008 in response to a balance of payments crisis. Although the economy has stabilized since the crisis, it has failed

to recover. Foreign investment has not returned, due to investor concerns related to governance, energy, security, and a slow-down in the global economy. After a small current account surplus in FY2010/11, Pakistan's current account turned to deficit in FY2011/12, spurred by higher prices for imported oil and lower prices for exported cotton.

Agriculture is one of the most important sectors of the economy, accounting for over 20 percent of GDP and two-fifths of employment. Its share of GDP has fallen in recent years, as the services sector has expanded. Substantial foreign investment between 2002 and 2007 led to huge growth in the banking and telecommunications sectors. Other important industries include clothing and textiles, food processing, chemicals manufacture, iron and steel. Remittances from overseas workers, averaging about US\$1 billion a month since March 2011, remain a bright spot for Pakistan.

Increasingly, growth and productivity in Pakistan are being hampered by the country's energy crisis: there is a big and widening gap between electricity demand and supply. Numerous factors are responsible for this including poor governance, fragmentation of the sector, reliance on expensive imported fuel, poor tariff structure and revenue collection, lack of investment, and growing massive circular debt. On top of this, Pakistan also faces a growing water crisis: it is already water stressed and heading to becoming water scarce.

#### **c) Population Demographics and Development Indicators**

Pakistan's decennial census was last held in 1998, so accurate population data is not available, but the total population is estimated to be over 180 million. Pakistan has a young population: over half are under the age of 22 years. There are several ethnic groups, the largest being Punjabis – 45 percent, Pathans -15 percent, Sindhis – 14 percent, Mohajjirs/Urdu speakers – 8 percent, and Balochis – 4 percent. Urdu is the official language of the country and (along with English among the upper classes/educated) has gradually become the lingua franca; but most people also speak a regional language.

Development indicators for Pakistan are poor. Over the past few years, low growth and high inflation, led by a spurt in food prices, have led to a significant increase in poverty levels: the UN Human Development Report 2011 estimated poverty at almost 50 percent of the population. As Pakistan's population continues to expand, meeting people's development needs is becoming increasingly challenging. On current performance, Pakistan is not likely to achieve its MDG targets by 2015.

#### **d) Situation of Women**

The situation of women in Pakistan varies hugely depending on where they live and their socioeconomic status. FATA, Balochistan and parts of Khyber Pakhtunkhwa are extremely conservative, and women are largely confined to their homes with little access to services or employment opportunities. Parts of rural Punjab and Sindh are similarly conservative, particularly in relation to 'honour', and practices such as honour killings are carried out there. Women in urban areas – Lahore, Karachi, Islamabad in particular – generally have greater freedom and opportunities: working women are the norm in Pakistan's cities. Women's political participation is promoted through reservation of seats for them in all legislative bodies. The country has had a female prime minister, speaker of the National Assembly, ministers and ambassadors. In recent years a number of significant pieces of legislation have been passed empowering women. These include laws protecting women against harassment in the workplace, criminalising practices such as marriage to the Holy Quran (common in Sindh, and used to prevent women marrying out and taking their inheritance with them),

making life imprisonment the punishment for acid attacks, and establishing the National Commission on Status of Women as a permanent body.

### 5.1.2 Affected Regions

The final stretch of the CASA-1000 project is a 71 km HVDC transmission line coming from Torkham on the Afghanistan border and going through Pakistan to the Sheikh Mohammadi Grid Station on the outskirts of Peshawar. The proposed transmission line route traverses Khyber Agency in the Federally Administered Tribal Areas (FATA) and an area outside Peshawar falling under the Peshawar District Administration.

### Socio-Economic Profile Based on Community Benefit Survey

The socio-economic profile given below of the affected areas is based on a community benefit sharing study conducted by SABAWON in 2012. The study aimed at developing a menu of options for community benefit sharing interventions along the CASA-1000 route. It surveyed 13 villages along the route (out of a total of 27 settlements): in each a sample household survey (covering an average 31 percent of households) was carried out followed by focus group discussions and key informant interviews. The community benefit sharing option study divided the transmission line route in Pakistan into three sections on geographic and tribal lines:

- Section A – Sheikh Muhammadi Grid Station (outside Peshawar) to Karkhano Bazaar;
- Section B – Jamrud to Haji Ayub Kaley (dominated by Afridi tribe);
- Section C – Sheikwal to Torkham (dominated by Shinwari tribe).

#### a) Population

The total estimated population in the study area (13 villages) was 0.114 million, living in 17,315 households. Of this total population, Section A with 5 villages had 61 percent and average HH size 6.97 persons, Section B had 17.5 percent with average HH size 6.16 persons, and Section C had 21.5 percent with average HH size 5.9 persons. The joint family system is prevalent that makes the household size as high as 20 to 26 persons in one compound. However, household data was collected on the basis of standard definition of household.<sup>23</sup> The overall average household size was thus 6.6 persons (see Table 8 and Fig.1). The gender ratio in the surveyed population was 51 percent males and 49 percent females.

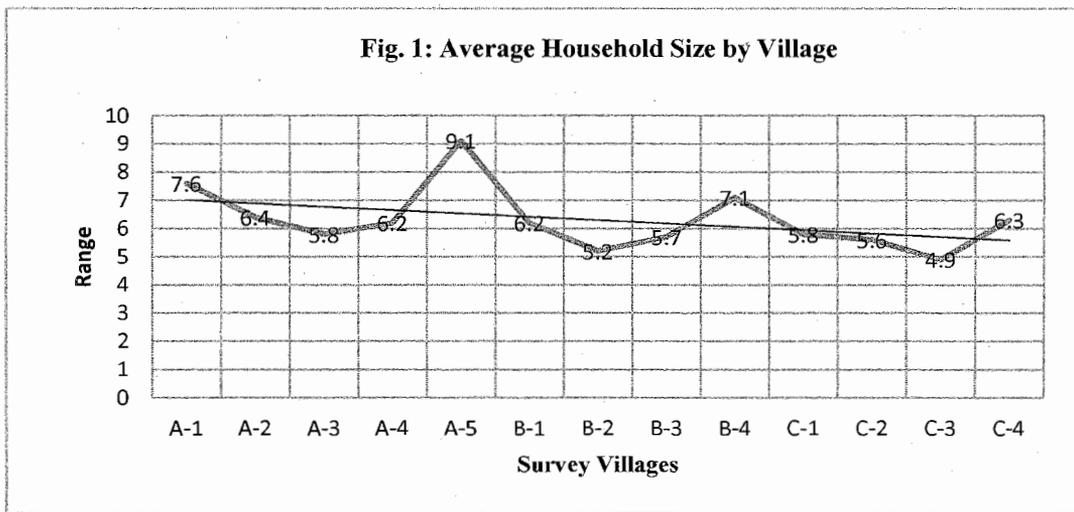
The villages all along the transmission line were settled on a tribal basis. Three main tribes Mohmand, Afridis and Shinwaris were settled in each section. The villages in each section were further inhabited by sub-tribes/branches locally called Khel or Zai. The size of the villages varied from 200 to over 1,000 households.

**Table 8: Distribution of Sample Population by Gender and Household Size**

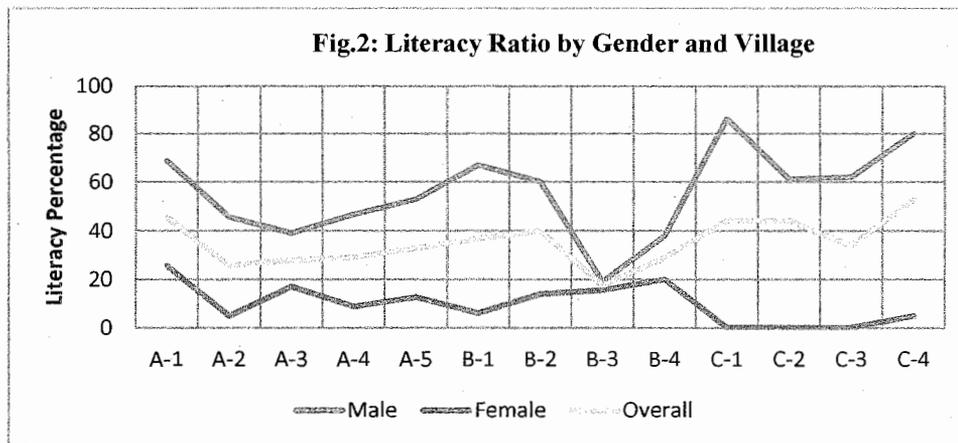
Section	Surveyed Villages	Total HHs in the Village	Sample Households				
			Survey HHs	Population	Male	Female	Average HH Size
A-1	Salman Khel	2,600	862	6,591	3,056	3,535	7.6
A-2	MashuKhel	650	200	1,278	658	620	6.4
A-3	SheikhanKillay	2,550	924	5,398	2,703	2,695	5.8

<sup>23</sup>All persons living under one roof or occupying a separate housing unit having a separate cooking facility, where the members are related by blood or law they constitute a house.

A-4	S. Mohammadi	2,100	683	4,230	2,254	1,976	6.2
A-5	MushtarZai	1,650	539	4,886	2,518	2,368	9.1
B-1	Sur Qamar	500	125	778	386	392	6.2
B-2	Shagai	478	173	921	512	409	5.3
B-3	Shah Kas	1,127	300	1,709	902	807	5.7
B-4	Ali Masjid	975	300	2,128	1,159	969	7.1
C-1	Torkham	895	210	1,210	615	595	5.8
C-2	Gagra	480	152	859	466	393	5.6
C-3	Sheikhwai	960	228	1,112	613	499	4.9
C-4	SadoZai	2,350	774	4,902	2,471	2,431	6.3
<b>Total</b>		<b>17,315</b>	<b>5,470</b>	<b>36,002</b>	<b>18,313</b>	<b>17,689</b>	<b>6.6</b>



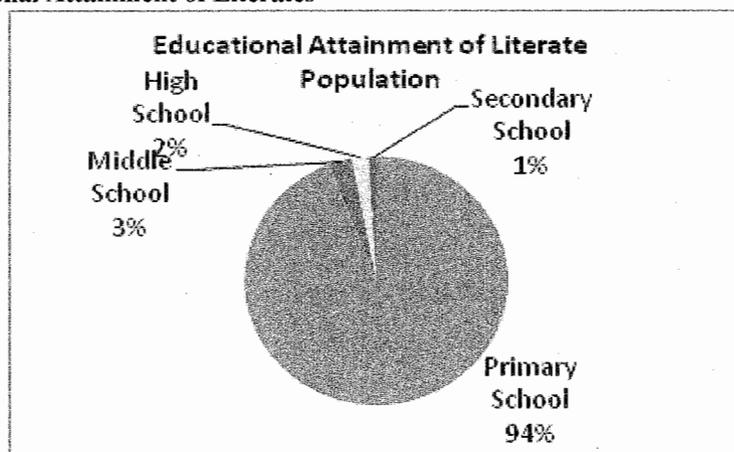
The overall literacy for the entire region was 37 percent, with over 93 percent of this only functional literacy. Differences were found in the three sections surveyed: the literacy ratio in Section-C villages was higher (49 percent) compared to Section-A peri-urban villages (35 percent) where both public and private sector educational facilities were available and functional. Literacy levels in Section-B villages were at marginal level with 33 percent literates.



There was a wide gap in male and female literacy. The overall male literacy rate was 59 percent compared to only 14 percent female literacy. With regard to variations across sections, Fig. 2 shows that, despite having low overall literacy, the gender gap in Section A was narrow, with a similar situation in Section B; in Section C, however, with the highest overall literacy, the female women literacy ratio was negligible.

The educational attainment level of those reported literate was marginal and limited. Of the total literate persons, 94 per cent had attained only primary education up to 5<sup>th</sup> grade or attended a *Madrassa* for a couple of years, while 3 per cent had attained 8<sup>th</sup> grade level education, 2 percent high school level and only 1 per cent had reached secondary school. Attainment of college or university level education was almost non-existent.

**Fig 3: Educational Attainment of Literates**



In discussions and interviews, almost all the respondents took a ‘fundamentalist’ stand on literacy, saying that formal education system was against their traditions and it did not help in the economic activities of the tribal society. On female education they were reluctant to give any suggestion against the Taliban’s stated policy. These factors explain the overall low literacy and specifically the gender gap in the literacy ratio and in educational attainment. Girls at the age of 10 years were forced to observe *Purdah*/veil and not allowed to play in the village streets.

**b) Land Use and Access to Services and Power**

Land use for agriculture was extremely limited because of the largely barren and in places hilly nature of the terrain. No agriculture was practiced in Section C for this reason, and very little (around 5 percent of households reported agriculture as a major source of income) in Section B, while the same figure for Section A was 16 percent.

The survey found that all households owned the land on which they lived. The majority of households were organized into a compound system, whereby the land owned by the household was walled in. This included living area, *hujra* (public meeting place), livestock yard, fruit orchard and even, depending on land and water resources, wheat and maize crops. Construction materials varied from *kaccha* (use of mud) – 65 percent, to mixed houses (using brick walls) – 22 percent, to *pakka* (bricks and concrete or iron roof girders) – 13 percent. The construction material used reflected the economic status of the household.

The entire infrastructure for education services for education in FATA has been completely demolished. Teachers, in particular primary school teachers, have either joined the Taliban or fled to Peshawar/elsewhere. The survey reported that there had been no schooling in the region for the past ten years. An official of the FATA Education Department summed up the situation in FATA as follows: 'There is no dearth of government financed schools and teachers in FATA. There are 6,000 schools and 33,000 registered teachers. Hardly 3,000-4,000 are regularly performing their duty. The remaining 90 percent are family members of local tribal Maliks. The school buildings and the allied services (electricity, water and support staff) are actually being used by the Maliks. The tribal Maliks and MNAs draw their salaries by force.'<sup>24</sup> No information was provided in the community benefit sharing study about access to health services.

The community benefit sharing study found that average in-house availability of safe drinking water in the COI villages was 57 percent, ranging from 0 percent in Gagra to 25 percent in Salman Khel to 100 percent in Sheikhwal (see Table 9). Groundwater was available at deep aquifer level, and water extraction thus took money and effort. Installation of an in-house motorized piped water system was expensive.

Only 24 percent of surveyed households reported having an in-house pour flush latrine; people used pit latrines for women and children while males used the open fields. Prevalence of flush latrines was highest in Section A settlements and lowest in Section C villages. There was a direct correlation between sanitation facility and water availability as well as economic status – flush latrines cost money.

The situation with regard to access to power was such that all villages were officially declared as 'electrified' or connected with the national grid. At household level, however, it is the responsibility of each household to get itself registered, pay the connection fee and other charges to get a formal connection. Some had done this, while others had illegal connections from neighbours. The survey reported total electrification to average 76 percent, with very slight variations across the three sections. However, electrification did not mean a regular supply of electricity. The survey found that power outages were extensive. The reported average availability of electricity in the project villages was:

- Section A: 3-4 hours in 24 hours.
- Section B: 1-2 hours in 24 hours.
- Section C: only 1 hour in 24 hours

A further problem was low voltage supply. The low voltage in peak hours (5-10 pm) was reported as a major problem when households needed electricity for lighting, cooking, heating in winter and electric fans during summer evenings. As the entire area is barren hills and thus deficient in fuel wood, the majority of women used electric heaters or dung cakes for cooking. But shortage/low voltage electricity in peak hours was causing great problems at household level.

The active presence of the Taliban and continued military operations have completely paralyzed the electricity distribution and tariff collection system in Khyber agency and peri-urban areas of Peshawar. Although the supply network to some extent is maintained and electricity is provided under the electricity distribution company PESCO's load management plan, the tariff collection system has been totally abandoned. All FGD respondents reported that at least for the last ten years, they had never paid for the use of electricity.

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<sup>24</sup> Interview with DG FATA, conducted on 29 April 2012, SABAWON *Community Benefit Sharing Study*, p. 44.

**Table 9: Availability of Electricity, Potable Water and Pour Flush Latrine in Surveyed Villages**

S#	Village	Electricity	Potable Water	Pour Flush Latrine
A-1	Salman Khel	92%	25%	11%
A-2	Mashu Khel	97%	97%	57%
A-3	Sheikhan Killay	26%	39%	27%
A-4	Sheikh Mohammadi	82%	77%	48%
A-5	MushtarZai	100%	90%	30%
B-1	Sur Qamar	90%	60%	48%
B-2	Shagai	29%	16%	30%
B-3	Shah Kas	84%	47%	10%
B-4	Ali Masjid	100%	87%	18%
C-1	Torkham	43%	57%	19%
C-2	Gagra	100%	0	0
C-3	Sheikhwai	98%	100%	0
C-4	SadoZai	51%	49%	13%
	<b>Average</b>	<b>76%</b>	<b>57%</b>	<b>24%</b>

**d) Sources of Livelihood**

The working population (bread earners) in the affected regions was found to be comprised entirely of male family members: in tribal society, the role of women is limited to housework and very small-scale productive activities at household level. As noted the barren (with severe shortage of water) and often hilly nature of the terrain meant agriculture was practiced by only a small proportion of households. In Section A an average 16 percent of households reported agriculture as a major source of income, while the figure was 5 percent in Section B and zero in Section C (see Table 10).

The category 'business and self-employment' included shopkeepers, property owners, real estate managers, middle men, transporters, food grain merchants, traders, contractors, small manufacturers and service providers. Overall 27 percent of surveyed households reported business and self-employment as major source of income: the proportion was lowest in Section A (just under 10 percent) and highest in Section C (62 percent) – within this section it was highest in border villages (e.g. Sheikhwai 72 percent and Gagra 70 percent). This is due to proximity to the business and trade centre for foreign goods and the tax free zone called Karkhano Bazar.

**Table 10: Percentage Share of Major Sources of Household Income by Village**

Village	Sources of Income (percentage)							Total
	Agri.	Business/ Self Employed	Public Sector	Private Sector	Labour/ Daily Wage	Other	Without a Source	
A-1	29	6	6	16	24	16	3	100
A-2	17	6	20	10	31	7	9	100
A-3	12	15	22	5	24	21	1	100
A-4	14	5	8	10	57	5	1	100
A-5	7	17	17	17	30	11	1	100
B-1	6	17	5	17	42	11	2	100
B-2	3	5	21	24	12	31	4	100
B-3	1	21	8	12	36	20	2	100
B-4	2	20	15	2	38	21	2	100
C-1	0	52	6	11	23	6	2	100
C-2	0	70	5	3	17	2	3	100

C-3	0	72	6	1	12	7	2	100
C-4	0	45	2	12	35	4	2	100
<b>Average</b>	<b>7</b>	<b>27</b>	<b>11</b>	<b>11</b>	<b>29</b>	<b>12</b>	<b>3</b>	<b>100</b>

Source: Household Survey of 13 villages

The majority of public sector employment was available away from the villages and hence involved some travel or required the bread earner to stay away from home. In view of the low literacy levels and technical skills available in these villages, local community members could only be employed as watchmen, attendants, labourers, drivers, and/or soldiers in the paramilitary forces. Overall 11 percent of the households reported public sector employment as major source of income. The proportion was highest in Section A households (average 15 percent) and lowest in Section C (5 percent).

For similar reasons, private sector employment opportunities were limited to watchmen, attendants, labourers, drivers, or carriers. These opportunities were mostly available in Peshawar. Overall 11 percent of surveyed households reported private sector employment as a major source of income. Labourers or daily wage earners accounted for the biggest source of income: 29 percent of overall households. These people were mostly engaged in business or construction activities. There was some variation across sections: in Sections A and B one third of workers were daily wage earners, while in Section C the figure was 22 percent.

The survey found that a significant number of people in the surveyed villages would not reveal their sources of income during the survey, categorised as 'Other Sources'. These constituted around 12 percent of the total households, with the highest proportion in Section B (20 percent) and lowest in Section C (2 percent).

#### e) Situation of Women

The situation of women in the CASA-1000 affected areas is typical of that of women across the FATA region. The first point to note, in contrast to the rest of Pakistan, is the zero visibility of women in public life, even in local or district level markets. *Purdah* is very strictly enforced. The compound house structure prevalent in the region allows women to take care of their chores – housework, childcare, livestock, small-scale production – within the confines of the home. Some tasks do require them to go out, e.g. fetching drinking water, collecting firewood, fodder for animals,<sup>25</sup> but they do so fully covered and usually within clearly defined territory which non-household males will know are used by women and avoid. On the rare occasions when women have to leave their villages, e.g. to visit a health centre, they will do so in full *purdah*. Not surprisingly, women do not have their own identity in public life: they are referred to as someone's daughter or someone's wife – a woman's own name is never taken directly outside the home.

<sup>25</sup> In many communities of Asia and Africa and Latin America the time and energy spent by women in collecting fuel and collecting water detracts them from more productive use of their time and attention to pursue education or income generating activities. Their time is also taken up by cooking with fuels that are not clean or with stoves that are not energy efficient. Health issues arise through inhaling excessive smoke generated by traditional fuels and poorly ventilated homes. Women are also faced with various natural threats while seeking fuel. Some lessons learned globally about gender and energy from project activities include i) women have valuable knowledge about local resources and conditions and it is useful to involve them in designing and implementing projects to meet their own energy needs; ii) activities addressing energy needs should be integrated with other efforts related to health, education and agriculture; iii) wider availability of liquefied petroleum gas (LPG) and other cleaner fuels is can provide affordable alternatives to traditional biomass-based cooking and heating fuels; iv) because of their traditional responsibilities for collecting fuel and water, women and girls benefit the most from access to improved energy services. *Gender and Energy for Sustainable Development: a tool kit and resource guide*, UNDP, 2004.

## f) Vulnerable Groups

A participatory wealth ranking process was used to identify the poor: this entailed community members ranking the economic status of their neighbours and the findings being validated in larger FGDs. It found that 62 percent of the surveyed population fell within the low income (49 percent) or very poor (13 percent) category.

**Table 11: Households by Poverty Ranking**

#	Village	High Income	Middle Income	Low Income (poor)	Very Poor
A-1	Salman Khel	5%	28%	55%	12%
A-2	MashuKhel	4%	49%	34%	13%
A-3	SheikhanKillay	9%	42%	38%	11%
A-4	Sheikh Mohammadi	9%	19%	56%	16%
A-5	MushtarZai	9%	40%	45%	6%
B-1	Sur Qamar	2%	24%	71%	3%
B-2	Shagai	5%	55%	35%	5%
B-3	Shah Kas	0.5%	37.5%	59%	3%
B-4	Ali Masjid	7%	30%	59%	4%
C-1	Torkham	25%	31%	35%	9%
C-2	Gagra	4%	14%	60%	22%
C-3	Sheikhwal	8%	48%	38%	10%
C-4	SadoZai	5%	17%	58%	20%
	<b>Average</b>	<b>7%</b>	<b>31%</b>	<b>49%</b>	<b>13%</b>

Source: Household Survey of 13 Villages

Of the very poor, 2 percent were described as vulnerable, i.e. had no means of livelihood and were dependent on others. The proportion of vulnerable people in Section A (peri-urban areas) was marginally higher (3 percent) than in Sections B and C (2.5 percent). The members of the local community who had the means contributed their Zakat (compulsory Islamic charity payment of 2.5 percent of savings in cash or kind) religiously to support vulnerable people. The remaining 11 percent in the very poor category, with a source of income, were also vulnerable because they could not meet their educational, nutritional and health needs and because they could easily slide into the category of those with no source of income.

### **Socio-Economic Profile Based on IEL ESIA**

As part of an environmental and social impact assessment prepared by Integrated Environments Ltd, a relatively detailed field reconnaissance was conducted within the 71 km x 100 m wide COI between Torkham on the Afghanistan border and Peshawar. Baseline environmental and social information was collected in the field during the months of October, November and December 2007. This was supplemented by newly acquired 6 m satellite imagery for the 71 km portion of the 500 HVDC cross-border T/L project in Pakistan. A representative consultation process (20 percent sample size) was conducted with project affected persons (PAPs), government representatives and local non-governmental organizations (NGOs). The discussions included project planning, routing, construction and related impacts. Concerns and issues of all participants were recorded. The findings of the IEL assessment with regard to the socio-economic profile of the CASA-1000 project affected areas are as follows:

**a) Administrative System**

The land in the COI was reported to be under two different land ownerships/authorities. From the Torkham border to Bara the land was under tribal ownership (falling within Khyber Agency in FATA) and from Bara to the end of the COI the land was under Government of Pakistan (GOP) administration. Tribal people have autonomy and run their affairs according to their faith, customs and traditions.

Along the COI land is held as communal property by the tribes and local clans. Communal land is managed by tribal customary laws ensuring in principle, a degree of fairness and equitable distribution. Social support mechanisms operate relatively high in these areas as community projects and developments are approached collectively when it comes to community needs such as: death and marriage ceremonies; harvesting and threshing of crops; construction of community meetings places (*Hujra*) mosques; building and cleaning irrigation channels; protection from floods; maintaining paths; and wood and grass cutting.

Each tribal agency is administered by a political agent, assisted by a number of assistant political agents, *tehsildars* (administrative head of a *tehsil*) and *naib tehsildars* (deputy *tehsildar*), as well as members from various local police (*khassadars*) and security forces (levies, scouts). As part of his administrative functions, the political agent oversees the working of line departments and service providers. The political agent is responsible for handling inter-tribal disputes over boundaries or the use of natural resources, and for regulating the trade in natural resources with other agencies or the settled areas. The political agent plays a supervisory role for development projects and chairs an agency development sub-committee, comprising various government officials, to recommend proposals and approve development projects. This person also serves as project coordinator for rural development schemes – making this person the first person to contact in relation to the state and communications with tribal leaders.

*Jirga* and *Maliki* systems are strong and powerful local institutions for the reconciliation and resolution of local disputes and punishment for those who violate the local rules and customs. The reported crime rate in FATA is low. A *Malik* has a very high status in his tribe. The Political Agent gives the *Malik* some amount as *Mojib* (allowance) periodically to run his local hospitality expenses. The local people respect *Maliks* whom are known to possess good personal characteristics, weapons and men at their disposal to carry out armed operations when needed and at their discretion.

**b) Population**

Approximately 27 settlements were found to be located near the COI. The majority of residents lived in rural settlements with populations of 300-4,000. There were four main tribes residing along the COI: *Afridi*, *Shinwari*, *Mullagori* and *Shalmani*. The tribes have sub-tribes/clans that all have their own traditions and customs. Most families lived as a joint/extended family system and consisted of 10 to 30 residents. The literacy rate of the population studied within the COI was 37 percent for males and 3 percent for females.

**c) Access to Services and Power**

Approximately 44 percent of residents lived in mud houses, 40 percent lived in concrete/mud houses, and 16 percent lived in concrete houses. Approximately 60 percent of the population had toilets with flush systems and 75 percent had easy access to potable water. The water sources were generally wells along streambeds/springs and lift pumps. In areas where the

wells were not close to settlements, women had to travel some distance to fetch the water. More than 92 percent of the population had access to electricity. Health facilities, schools and paved roads were available to 50 percent or less of the population.

#### **d) Sources of Livelihood**

The IEL ESIA found that agriculture was limited in most of the FATA due to the rocky soils, steep slopes, lack of suitable land and limited water. There was relatively little agriculture in the northern two-thirds of the COI. Most of the farming occurred in the southern third between Jamrud and Peshawar in the towns of Sheikh Khan, Bara and Sheikh Muhammadi where the land is relatively fertile. Notably, the Ayub Afridi Tribe had 1,000-2,000 acres of agriculture land from Bara Grid Station to Sheikh Muhammadi Grid Station. Poppy production and trade was reportedly present in Pakistan between the borders at the Khyber Pass.

The common occupations for local residents in the COI were: drivers, transporters, day labourers, working abroad and farming. The average household income for the COI was Rs. 281,400 and average expenditure was Rs. 155,000.

#### **e) Situation of Women**

The position of women in tribal society was found to be very subordinate to men. Traditionally the household head (elder) has the ultimate decision making power over the whole family. The Taliban presence in these communities had made it difficult for women to seek any level of education – as under stricter forms of Sunni Islam a woman's place is in the home. Urban areas educating women had received formal threats from these militant Sunni groups. In rural areas threats had been more serious, resulting in violence against women. Women took an active part in agricultural activities, collecting fuel wood and fetching water, in addition to attending to any domestic related duties.

#### **f) Vulnerable Groups**

Many of the residents within the proposed transmission line route were found to live below the poverty line and were considered "vulnerable". Water and sanitation issues are of a high concern given that in 2011, according to the Health Department, Cholera had broken out amongst some three hundred peoples including women and children (vulnerable populations). A majority of people lived well below the poverty line and a majority of people possessed a nil to low literacy level (sample drawn: males 37 percent and females 3 percent). The ecology of the area suggested that the areas that used to provide forage and firewood were diminishing at a fast pace, pushing people to become more reliant on other forms of livelihood (legal and illegal) that existed in the surrounding areas.

## **5.2 PROJECT IMPACT**

### **5.2.1 Methodology**

The social impact assessment of the CASA-1000 project on affected areas in Pakistan is largely based on the *ESIA and ESMP of the Central Asia South Asia Electricity Transmission Project (CASA 1000): Feasibility Stage* prepared by IEL. The IEL ESIA entailed the preparation of environmental and social alignment sheets, using new satellite imagery to document specific environmental and social concerns and proposed mitigation measures along the entire CASA-1000 transmission line route. In addition baseline field surveys were conducted in project affected regions between October and December 2007, and a

representative consultation process conducted with local stakeholders (PAPs, government officials, local NGOs).

### 5.2.2 Social Features Based on Alignment Sheets

The table below details the social features gathered from alignment sheets for the length of the proposed transmission line route through Pakistan.

**Table 12: Social Features along CASA-1000 route in Pakistan as gauged from environmental and social alignment sheets**

Alignment Sheet	Description of Social Features
AS-100	The proposed T/L route transects community infrastructure and crosses a watercourse. The Khyber Pass is located approximately 1.5 km southeast of the COI and the Torkham-Jamrud highway/Highway N5 runs parallel to the proposed route.
AS-101	Machi check post is located approximately 1.25 km northeast of the COI. This is considered as a cultural Heritage Site. The land use type includes community infrastructure, cultivated lands, road, railway and undisturbed lands. There are communities located in the vicinity of the COI. The community of Landi Kotal parallels the proposed T/L route and is located 0.5 km north of the COI. Landi Kotal is a tourist destination accessed by road and rail.
AS-102	The route parallels the community of Landi Kotal which is located on the Khyber River. Ali Masjid Fort, a religious site, is located approx. 0.8 km south of the proposed T/L route but is not interfered by the route
AS-103	The major land use types include cultivated lands, undisturbed lands and community infrastructure. The route traverses the Jamrud River and the town of Jamrud (17 km west of Peshawar and with road and rail linkages to Peshawar). The COI enters the city of Peshawar traversing community infrastructure and cultivated lands.
AS-104	Agricultural lands, watercourses and community infrastructure are traversed by the proposed T/L. Bara Road and Bara River are intersected. The route then passes through agricultural lands and small pockets of communities
AS-105	This segment is dominated by cultivated lands and communities. The proposed T/L route intersects Peshawar-Hayatabad road. The community of Masho Khel is located adjacent to the road. Dense cultivated lands are observed. The proposed T/L route then terminates at the Sheikh Muhammadi substation. The substation is connected by Highway N55 (Indus Highway) and Sarband road.

### 5.2.3 Social Impact Assessment

Impacts of the CASA 1000 Project on people and communities within the COI in Pakistan are expected to be as follows:

#### a) Land Acquisition

It is anticipated that permanent land acquisition will not be necessary for this project, as the land surrounding the towers may be used for agricultural purposes. Land may need to be acquired to relocate homes. Temporary land acquisition will be necessary for the Contractors camps/work areas, aggregate quarries, and access roads. One camp will extend over approximately 2,500 m<sup>2</sup>. The impact of temporary land acquisition is not expected to be significant.

#### b) Crop and Tree Loss

The magnitude of loss will depend on the season in which construction is done and the type of crops damaged. Through careful route selection, avoidance of valuable land and following the mitigation measures, crop loss can be kept to a minimum.

**c) Health and Safety**

Construction workers may be exposed to minor nuisances from noise to serious health and privacy concerns. Impacts on public health and safety will not be significant during the operational phase.

**d) Livelihoods**

Local farmers may experience loss of income due to tower and/or access road construction. The magnitude of the losses will be estimated once the tower and access road locations have been determined. Through judicious route selection, crop losses should be minimized. Compensation will be negotiated for all crop and tree loss and provided as per the resettlement policy framework. Preference will be given to affected people when locals are hired by the Contractor. Local residents will have the opportunity to work for the Contractor and local goods and services will be used when possible, therefore the effects on employment are expected to be positive.

**e) Women**

About 43 percent of the COI's population is female. Women in rural areas spend a lot of time in the field. Construction through these areas may cause an invasion of privacy. Every effort should be made to ensure the privacy of local women. Specific concerns will be discussed with the appropriate tribal Elders (Maliks).

**f) Public Infrastructure**

It is estimated that 7 public infrastructures and one graveyard, as well as 15 commercial structures and about 127 homes, occur within the COI. The exact amount of affected people and infrastructure cannot be determined until the exact tower locations are chosen. There are six sites in the vicinity of the COI of historical, cultural and archaeological importance. Only one site, Machi Check Post is within the COI. The transmission line will be routed to avoid cultural, historical, religious structures, schools or public buildings. Although unlikely, in the event existing electric poles have to be moved for construction of the T/L mitigation measures will be carried out.

**5.3 SOCIAL MANAGEMENT PLAN**

**5.3.1 Project Implementation Mitigation Measures**

The likely social impact of the CASA-1000 project in Pakistan was detailed above. The following mitigation measures can be taken in relation to these:

**a) Design Stage**

- The alignment of the transmission line can easily be selected in such a way that settlements in the vicinity of the proposed COI within Pakistan will not be affected;
- Privacy is an important matter for project affected people and the activities and customs of local people must be taken into account when selecting the final route alignment;

- The project can easily be routed so as to affect the minimum number of trees, which are relatively important to livelihoods in the area;
- The transmission line can easily be routed to avoid schools and settlements;
- Efforts should be made to avoid shifting people/structures and to maximize the distance of the T/L from existing permanent structures.

**b) Pre-Construction Stage**

- Compensation should be made prior to occupation of the land by the Construction Contractor;
- In the event structures need to be moved or demolished, compensation should be negotiated and provided prior to project implementation;
- The same protocols should apply to crops and productive land.

**c) Construction Stage**

- To avoid conflicts/disputes with local people, the project staff and contractors and their activities should be confined within clearly demarcated construction areas;
- The Contractor should dispose of materials only within designated areas;
- A worker code of conduct should be established and enforced;
- Noise and dust emissions during the project execution should be controlled;
- The Contractor should respect and follow local norms and traditions;
- The Contractor should respect local women and their privacy.

**5.3.2 Importance of Broad Social Management Plan**

The above mitigation measures address the direct impact of the project on local communities, i.e. the social impact as a result of design and construction of the project. However, the social management plan for the project needs to take a much broader approach. This is important for the following reasons:

Firstly, local communities will not be able to derive power supply directly from the transmission line, even though it passes by them, because it will be a high voltage line. As noted already, lack of reliable electricity supply – particularly in winter months – is a major problem in the region. Inability to access power from the line could lead to local frustration.

Secondly, no matter how minimal, all the negative effects of the project will be experienced by communities along the T/L route. The benefits, by contrast, will go to people much further away who will not suffer any disruption or inconvenience because of the line. This leads to an equity issue between those immediately affected who will not benefit directly from the line (and could suffer some disruption), and the larger society that will benefit. Unless efforts are made to address this inequity – as well as local frustration at not being able to access power from the line - this could affect the project's implementation and operation in the long run. Thirdly, it is important to create local ownership of the project to mitigate any potential risk of it being targeted by parties with ulterior motives. Fourthly, the FATA region is highly unstable, with very real and serious security concerns. Attempting an energy project of this nature in such a context requires extra effort to be put into winning over local stakeholders and building ownership for the project.

For all these reasons community support schemes need to be prioritized. It is important to make local communities 'stakeholders' in the project, so that they too have an interest in ensuring its success.

### 5.3.3 Perceptions of Communities in Affected Areas

Communities were extensively consulted as part of the SABAWON study to identify options for community support programs. Details of the methodology used for this are given in the SABAWON report. Table 13 gives the ranking of community priorities.

**Table 13: Ranking of Community Priorities for potential Community Support Programs**

#	Village	Water Supply	Girls Primary School	Electricity	Employment	Health (MCH) Centre	Peace	Women's Sewing centre
A-1	Mushtarzai (Women)	5	0	3	1	2	4	0
	Mushtarzai (Men)	4	3	1	1	2	0	0
A-2	Sheikh Muhammadi (Women)	0	3	1	0	2	0	4
	Sheikh Muhammadi (Men)	5	4	2	1	3	0	0
A-3	Masho Khel (Men)	5	2	1	0	3	4	0
	Masho Khel (Women)	0	0	2	1	3	0	0
A-4	Sheikhan	4	2	1	0	2	0	0
A-5	Sulemankhel	4	2	1	3	2	0	0
B-1	Sur Qamar	1	4	2	2	3	0	0
B-2	Shagai	1	3	1	1	2	0	0
B-3	Shahkas	1	4	2	5	3	6	0
B-4	Ali Masjid	1	2	1	1	3	0	0
C-1	Sheikhwal	1	0	1	1	2	4	0
C-2	Sadozai	1	3	2	4	5	0	0
C-3	Torkham	1	4	5	3	2	0	0
C-4	Gagra	1	3	5	2	4	0	0

The SABAWON study concluded that the priorities for communities in the CASA-1000 affected areas of Pakistan were provision of electricity, employment opportunities, safe drinking water and girls' primary schools. Options for each of these are detailed below.

Community members listed their development priorities. They also proposed an alternate route to that proposed by the feasibility study, based on their knowledge of the area; this would have only 7 settlements in the corridor of impact. The route proposed by the communities shares part of the existing 132KV Peshawar–Turkham transmission line which crosses through barren hilly and mostly uninhabited areas. Furthermore, the route does not cross over any existing public infrastructure except at one point where it would cross over Turkham road from north to south near the Machni Check post.

The alternate route would run parallel to the road for half a kilometre to the Bagiari check post and then move further south toward Ziarat Bisay Baba and enter the Bara river basin. While going through the river basin to the outskirts of Salman Khel, the alternate route would get free ROW till Salman Khel, where it would traverse cultivated land. Taking Bisay Baba–Salman Khel the alternate route would be expected to avoid all of Jamrud, the thickly populated Kakhano Bazar-Hayatabad settlements. According to the communities it would avoid all negative impacts and not result in any compensation and land acquisition cost. However, this proposal is yet to be technically assessed.

### **5.3.4 Options for Community Support Programs**

As noted above, four community priorities were identified through the SABAWON study. No details were given for how the first of these – electricity supply – could be provided to local communities. Other priority needs of communities are as follows:

#### **a) Employment/Income Generation**

Options for employment/livelihood enhancement through CASA 1000 include:

- Preferential employment during the project design and construction period, and operation;
- Capacity building for operation and maintenance;
- Local contracts for supply of goods and services, i.e. award of labour/petty contracts to local contractors;
- Scholarships to youth for skill training;
- Scholarships to children for higher education.

#### **b) Safe Drinking Water**

The public sector policy in KP for water scarce areas is to design and implement mechanised water supply systems and hand over operation and maintenance (O&M) of these to user committees or political agencies. After handing over the O&M to the beneficiary communities the role of PHED is limited to provide technical support. A similar approach would be followed for CASA-1000 water supply schemes (see implementation arrangements below).

Based on the household data and FGD findings, villages were identified for safe drinking water supply interventions that would benefit the entire community, especially the women and the poor.

#### **c) Girls' Primary Education**

Girls' primary schools could be provided through community-private sector partnerships. Private sector schools have not been targeted by militant groups. Under this arrangement, the community would provide land for the school, the CASA-1000 project the infrastructure, and the private sector would hire and manage teachers. The total cost for the construction of 5 girls primary schools would need to be determined within project parameters.

### **5.3.5 Institutional Arrangements for Community Support Programs**

Ideally the CASAREM entity will establish a Community & Public Affairs Unit (CPAU) which will be the responsible unit for the implementation of the initial infrastructure investment components of the community support program activities, such as the water supply schemes, and school infrastructure. The proposed CPAU would be tasked to:

- Procure and administer the provision of teaching services through private and non-profit partners with close partnership of respective communities.
- Maintain liaison with "CASA communities" en route and coordinate between the operations and maintenance department (O&MD) of the transmission line and the communities.
- Disseminate information regarding employment opportunities that will emerge for local staff positions or daily labour on the various sections of the ROW and

coordinate the recruitment process with communities so as not to create any ill-will (since there will be more applicants than jobs).

- Resolve any issues that might emerge between communities and O&MD.
- Maintain liaison with the Political Agent, the provincial government and communities on any matters related to the security of the T/L.

Drawing on the findings of the consultation process, the program would ideally be implemented by the transnational CASAREM company entity itself because of the lack of trust in government agencies, including corporations like WAPDA or NTDC to carry out this work. The communities stressed that government-run institutions such as government schools were always under threat in the volatile region. From amongst the line departments, Public Health Engineering is a viable implementation partner for building operating and transferring water supply schemes to the communities. Shortcomings notwithstanding, PHED has accumulated extensive know-how and experience working with communities.

Implementation arrangements for both water supply schemes and girls' primary schools would be heavily dependent on participation by local communities. In the case of water supply schemes, this is part of the stated policy of the KP Government: operation and maintenance is assigned to beneficiary communities. In stakeholder consultations, it was clear that local communities were aware of this and were willing to take on this role.

The local communities are the main stakeholders of the project. Under the proposed arrangement, they would form a WUC/CBO consisting of the members of benefitting *Mohallas* (neighbourhoods) and villages, and facilitate the implementing agency (APHED) to select a suitable site for the project. The community would ensure the safety of implementing personnel. They would be responsible for participating in O&M training and for collection of user charges from beneficiaries. A joint bank account of the key stakeholders would be opened and the funds would be utilized on project repair and other development work. While the proposed WUCs/CBOs would work through an inclusive decision making process, in the current socio-cultural situation it will not be possible to involve women directly in the WUCs.

However, community members also stated that their playing the above role was conditional on:

- WUCs<sup>26</sup>/CBOs being involved in the inception, design and needs assessment stage;
- Provision of technical support in implementation of the project and training in O&M and tariff collection;
- No involvement by the political leadership in the entire inception design, implementation and management process.

Similarly, the proposed schools would be managed through a school management committee comprising school system owner, head school teacher and three members from the local community (including one from the poorest already identified during the household survey).

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<sup>26</sup> The proposed Water User's Committees (WUC's) or the local CBOs

## ANNEXES

### **Annex 1: IEL Environmental and Social Management Plan (ESMP) Outline**

The Environmental and Social Management Plan (ESMP) for the CASA-1000 transmission line project identifies the principles, approach, procedures and methods that will be used to control and minimize the environmental and social impacts of all construction activities. It is intended to complement the Project Initial Environmental and Social impact Assessments (ESIA), environmental alignment sheets, the Land Acquisition Resettlement Framework (LARF) and the Consultation Guidance Plan.

#### **Project Effects**

The project's main environmental and social issues are related to the transmission line impacts on wildlife, birds, fish and fisheries, air quality; land acquisition; soil erosion, the impact of construction worker camp over the construction period; the impacts of auxiliary project components, including borrow pits; and indirect impacts on the areas' natural resources, wetlands and biodiversity. Minimal environmental impacts are anticipated as a result of construction and operation of the CASA Project and the transmission line corridor does not cross any protected areas or areas of important biodiversity and ecological value. Project environmental concerns can be effectively managed and mitigated through the proper implementation of measures identified in this ESMP.

Similarly project social impacts are also considered to be minimal. While some resettlement will occur, it is expected to affect a low number of households. A Land Acquisition and Resettlement Framework (LARF) is presented in this report as a guide for future development of a Land Acquisition and Resettlement Plan (LARP) once final route selection has been made. Other management plans as presented in the ESMP Annexes address mitigation of other social and community impacts.

#### **How is the ESMP Organized and Structured?**

The ESMP involves multiple layers and responsibilities shared between Project Management Unit (PMU), the Project Environmental Officer (PEO) the Construction Supervision Engineer (CSE), the Construction Contractor, the Independent Environmental Monitoring Consultant (IEMC) and local authorities. The ESMP provides a framework approach to future develop of specific ESMP plans and sub-plans by the Construction Contractor and other ESMP organizations. A key component of project performance is to include specific aspects of this ESMP as indicated in the ESMP Annexes into construction contract provisions. Initial start-up costs of the EMP costs are estimated at US \$675,000.

#### **ESMP Plans**

Construction Impact Management Plan – measures to minimize negative impacts of construction activities on local communities and natural environment, to reduce the induced impacts of camp workers, to prevent pollution and ensure that hazardous materials are stored properly without risk to the environment.

Workforce and Site Installation Management Plan – measures to ensure that the installation of construction camps and activities of construction workers do not result in environmental impacts or disturbances to nearby communities and their residents. Includes measures to enforce a worker code of conduct and that all workers comply with the ESMP.

Site Preparation and Restoration Management Plan – measures to ensure that construction related clearing and other disturbance is minimized and that temporary and permanent disturbances are restored to pre-existing conditions.

Waste Management Plan – measures to ensure that project related solid and liquid wastes, particularly sanitary wastes, are properly treated and disposed of to the natural environment with no or minimal impact.

Pollution Prevention Plan – measures to ensure that the storage of fuels, chemicals, hazardous materials and other construction equipment and supplies do not leak, or cause discharges to the environment.

Aesthetics and Ecological Management Plan – measures to ensure that final route selection of the RoW minimizes visual impacts and aesthetics, and that construction of the CASA-1000 project does not cause lasting harm to the natural environment, its flora and fauna, protected areas and reserves and other sites of high ecological importance.

Safety Management Plan – measures to ensure that the safety of workers and adjacent local communities is maintained and that an injury free workplace is upheld.

Physical Cultural Property/Chance Finds Management Plan – measures to ensure that “chance finds”, or accidental discoveries of cultural property and historical resources, are protected and preserved without loss.

Community Relations and Health Management Plan – measures to ensure a dialogue with communities along the CASA 1000 Project RoW and that an effective mechanism is in place to compensate project related losses.

Environmental and Social Supervision – measures for supervision of project construction to ensure compliance of the construction contractor with EMP provisions and CASAREM country’s requirements.

Environmental Monitoring Plan – measures to continue baseline monitoring, assess the effectiveness of project mitigation and to review environmental and social performance.

Training and Capacity Building – measures for assessing current capacity and plans for capacity building, quality assurance and quality management, review and implementation across all levels of ESMP organization.

Reporting – measures for reporting and communication procedures to ensure that ESMP provisions are communicated and reported at all levels of the project, including local communities.

Implementation, Revision and Update - The ESMP shall be considered a controlled document and should be updated annually, following a reportable incident or plan update. A key aspect of the ESMP is adaptive management where continual improvement in environmental and social performance of the ESMP occurs in response to change and lessons learned from project implementation.

## **Annex 2: IEL Land Acquisition and Resettlement Framework (LARF): Objectives and Outline**

Norms and principles currently accepted among international financial institutions clearly state that development designs and operations must incorporate social and environmental

safeguard mechanisms. The Land Acquisition and Resettlement Framework (LARF or the Framework) establishes the parameters for the conduct of land acquisition and resettlement of displaced persons who may be affected during implementation of the proposed CASA-1000 transmission line project. While the number of people and magnitude of adverse impacts are expected to be minimal, the Project should work to further minimize the number of displaced persons and/or adverse impacts of this proposed transmission line project. The LARF outlines the tasks that are needed to develop a full Resettlement Action Plans, or RAPs. The LARF essentially provides a guide to enact context-specific RAPs in each country.

The objective of this report is to provide guidance for the CASA 1000 Project on what social mitigation measures should be in place concerning the LARF at all stages of the CASA 1000 Project -- design, construction, and post-construction. Understanding why and how people live in the CASA 1000 RoW areas is the most important element in designing a successful resettlement framework and ensuing resettlement actions plans.

A secondary objective of the LARF is to convey the urgency of putting this framework into operation and of implementing context-specific Resettlement Action Plans in each CASAREM country. This urgency derives from the socio-political contexts of these four countries. In the CASA regions, people are already familiar, directly or indirectly, with what involuntary resettlement means in negative terms, as a result of conflict, natural disasters, or other state-imposed development programs. Such issues can result in delays in land acquisition and resettlement processes. To avoid heightening or attracting additional security and safety concerns, or experiencing project delays, it is highly recommended that project proponents put this Land Acquisition and Resettlement Framework into operation immediately.

The LARF is divided into the following sections:

Section 1 describes ten tasks providing guidance for preparing country specific resettlement action plans.

Section 2 provides a brief description of LARF specific World Bank operational policies and guidelines, plus a list of national frameworks. Specific national policy descriptions can be found in Part E of this document. General LARF Mitigation Measures are provided.

Section 3 provides a list of guiding principles for the LARF.

Section 4 provides a discussion of existing data gaps with regard to carrying out LARF tasks outlined in Section 1.

Section 5 provides a guideline for the valuation of compensation entitlements and asset valuation. This section also provides guiding principles with regard to assessing host sites and developing livelihood reconstruction plans.

Section 6 provides a guideline for consultation, participation and grievance mechanisms specific to LARF. Institutional arrangements for the implementation of the LARF specific to each CASAREM country are also discussed.

Section 7 provides a guideline for internal and external and independent monitoring of project operations and LARF action plans.

Section 8 provides guidance for the budget of the LARF and country specific RAPs.